

EXHIBIT 2-A

(Final Environmental Assessment available at:
<https://new.mta.info/document/110751>)

(Volume 1 of 6)

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Final Environmental Assessment

April 2023

Federal Lead Agency



U.S. Department
of Transportation

**Federal Highway
Administration**

Project Sponsors



**Department of
Transportation**



Final Environmental Assessment and Draft Finding of No Significant Impact (FONSI) for Central Business District (CBD) Tolling Program Manhattan, New York

Submitted Pursuant to 42 U.S.C. 4332(2)(c), 23 U.S.C. 138, and 49 U.S.C. 303

by

U.S. Department of Transportation, Federal Highway Administration (FHWA)

Triborough Bridge and Tunnel Authority (TBTA)¹

New York State Department of Transportation (NYSDOT)

New York City Department of Transportation (NYCDOT)

This Final Environmental Assessment (EA) and Section 4(f) *de minimis* finding document the environmental effects of the Central Business District (CBD) Tolling Program (the “Project”) in New York County, New York, and surrounding areas of New York City and New York State, New Jersey, and Connecticut.² The Manhattan CBD is the commercial center of a 28-county region that surrounds and includes New York City. The high density of jobs and residents and the large number of visitors in the Manhattan CBD, has contributed to traffic congestion and delays, slowing travel and jeopardizing the vitality of the area. The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into the FHWA Value Pricing Pilot Program.

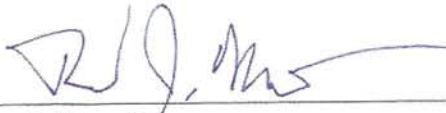
The Final EA was prepared consistent with the Council on Environmental Quality and FHWA’s National Environmental Policy Act regulations, as codified in 40 Code of Federal Regulations (CFR) Parts 1500–1508 and 23 CFR 771 respectively to evaluate the potential environmental impacts of, and identify mitigation measures for, the Project, in consideration of public and agency input. The Final EA responds to comments received from the public and agencies on the EA that was published in August 2022.

After careful consideration of a range of alternatives, FHWA and the Project Sponsors (comprising TBTA, NYSDOT, and NYCDOT) have studied the No Action Alternative and the CBD Tolling Alternative for the Project. The Project Sponsors recommend the CBD Tolling Alternative for the Project, and the FHWA has issued a draft Finding of No Significant Impact (FONSI). The official 30-day public availability period for the Final EA and draft FONSI will conclude on June 12, 2023, after which time the FHWA will issue a final agency decision for the Project.

¹ TBTA is an affiliate of the Metropolitan Transportation Authority (MTA).

² As defined for this Project, the 28-county region includes:

- New York City counties (Bronx, Kings [Brooklyn], New York [Manhattan], Queens, and Richmond [Staten Island])
- Long Island counties (Nassau and Suffolk)
- New York counties North of New York City (Dutchess, Orange, Putnam, Rockland, and Westchester)
- New Jersey counties (Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren)
- Connecticut counties (Fairfield and New Haven)



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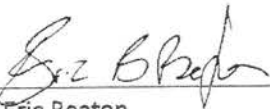
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0. [Foreword]

0.1 BACKGROUND AND TIMING

The MTA Reform and Traffic Mobility Act (the Traffic Mobility Act) was passed by the New York State Legislature in April 2019 with the goal of reducing traffic congestion within the Manhattan Central Business District (CBD) and creating a dedicated revenue stream to fund the Metropolitan Transportation Authority's (MTA) 2020–2024 Capital Program, as well as any successor programs. To meet these goals, the Traffic Mobility Act directed the Triborough Bridge and Tunnel Authority (TBTA), an affiliate of the MTA, to establish a plan to charge tolls for vehicles entering or remaining in the Manhattan CBD. The resulting tolling program, known as the Central Business District Tolling Program (i.e., the Project), is being proposed by TBTA in partnership with the New York State Department of Transportation (NYSDOT) and the New York City Department of Transportation (NYCDOT) (collectively, the Project Sponsors). The Project would address the need to reduce vehicle congestion in the Manhattan CBD and create a new local, recurring funding source for MTA's capital projects.

The Project Sponsors are seeking the acceptance of the Project into the Federal Highway Administration's (FHWA) Value Pricing Pilot Program (VPPP), through which FHWA can provide tolling authority to state, regional, or local governments to implement congestion pricing programs. When FHWA reviews an application to the VPPP, it must evaluate the potential environmental effects of the proposed action in accordance with the National Environmental Policy Act (NEPA).

In March 2021, the Project Sponsors received approval from FHWA to proceed with a NEPA Class III (Environmental Assessment [EA]) action under 23 Code of Federal Regulations (CFR) Part 771. NEPA Class III actions are those in which the significance of the environmental impact is not clearly established. The CBD Tolling Program EA was prepared to determine the effects of the Project on the built and natural environment.

Meaningful opportunities for public participation and engagement in the Project were initiated with an early outreach period from August 26, 2021, through April 27, 2022. During this eight-month period, over 7,000 comment submissions were received. From September through December 2021, the Project Sponsors held 19 public information webinars, soliciting input from the public, with nine of the sessions specifically focused on environmental justice communities. Over 1,000 individuals participated in the webinars and nearly 400 people provided commentary. Recordings of the public information webinars had generated more than 18,000 views on YouTube as of December 2022. Further, the Project Sponsors convened an Environmental Justice Stakeholder Working Group and an Environmental Justice Technical Advisory Group—which met two and three times, respectively, during the early outreach period. The early outreach period was influential in developing the EA in a manner that would speak to the questions and concerns of the public, especially those of environmental justice communities.

The EA was completed and made available to the public on August 10, 2022. The publication of the EA initiated a 30-day formal public comment period. The public comment period was subsequently extended by 14 days to September 23, 2022, in response to requests for an extension. During this 44-day comment window, more than 14,000 individual submissions and more than 55,000 form letters were received. Many of the submissions had multiple comments, resulting in over 22,000 individual comments during this period. Comments were collected by the Project Sponsors and FHWA through a combination of email, traditional mail, voicemail, fax, and an online form, as well as through oral testimony provided at six virtual public hearings on the EA. During the virtual hearings, 552 speakers offered oral testimony and many more participated during the livestream or watched later via the Project website or YouTube (over 11,200 views as of December 2022). Following the release of the EA, the Project Sponsors held one additional meeting with the Environmental Justice Stakeholder Working Group, and four additional meetings with the Environmental Justice Technical Advisory Group, to further engage with environmental justice communities.

0.2 ABOUT THE FINAL EA

Based on feedback received during the public comment period, and during the additional Environmental Justice Technical Advisory Group discussions, as well as guidance from FHWA, the EA was revised, resulting in a Final EA for the CBD Tolling Program. Throughout the remainder of this document, where the term “EA” is used, it refers to the Final EA as made available to the public in 2023, unless otherwise specified.

The Final EA incorporates revisions and provides new and/or updated information in response to public comments. Importantly, it provides more specificity on earlier mitigation and enhancement commitments, and adds an additional package of mitigation measures to address concerns raised during the public comment period and in discussions with the Environmental Justice Technical Advisory Group.

0.3 DIFFERENCES BETWEEN THE EA AND FINAL EA

Within the Final EA, where text has been changed from the EA document submitted for public review in August 2022, it is shown in square brackets using italics and bold font (e.g., ***[this is how edited text is marked]***). Where figures or entire tables have been changed, the title of the figure or table is in square brackets using italics and bold font. The revisions are marked in this way to be clearly distinct and visible to readers.

Most of the text in the Final EA remains unchanged from the August 2022 EA. **Table 0-1** below details substantive new or updated information provided in the Final EA. In addition to these updates, text errors were corrected in multiple chapters. Text error corrections are also marked as changed.

Notably, four chapters/appendices are entirely new. To indicate that they are new, the title of these chapters/appendices are marked in square brackets, with text that is bold and italicized. These chapters/appendices include the following:

- **“Foreword”** – this chapter, which explains the process and updates reflected in the Final EA.
- **Appendix 17D, “Technical Memorandum: Considerations for Environmental Justice Communities with Existing Pollution or Health Burdens”** – examines how environmental justice communities with pre-existing air pollution and health burdens could be affected by Project-generated increases or decreases in highway traffic adjacent to these areas – a concern that was raised during the public comment period and in discussions with the Environmental Justice Technical Advisory Group and Environmental Justice Stakeholder Working Group. The Technical Memorandum is a supplemental discussion to the quantitative air quality analysis presented in the EA and informs an expanded **Chapter 17, “Environmental Justice.”**
- **Appendix 17E, “Approach to Mitigating the Effect of CBD Tolls on Low-Income Frequent Drivers”** – provides background information about the development of mitigation to address a potential adverse effect on low-income frequent drivers.
- **Appendix 18, “Agency Coordination and Public Participation”** – contains comments and responses collected during the formal comment period in 2022, as described above. It includes the following sections:
 - **18A: Responses to Frequently Received Comments**
 - **18B: Index of All Submissions**
 - **18C: Comments and Responses** (this includes specific responses, but in many instances references the **Responses to Frequently Received Comments** in **Appendix 18A**)
 - **18D: Form Letter Submissions**

Table 0-1. New and Updated Information in the Final EA, by Chapter or Appendix

CHAPTER/ APPENDIX	LOCATION	NEW AND UPDATED INFORMATION
Chapters	"Executive Summary"	Updates to reflect changes made in all other chapters
	Chapter 2, "Project Alternatives"	Corrections to Alternative O-2 in Table 2-2, as well as additions to the table's notes
	Chapter 3, "Environmental Analysis Framework"	Includes analysis of new mitigation commitments in relation to the conclusions of the EA
	Chapter 4A, "Regional Transportation Effects and Modeling"	Updates figures and tables summarizing commuting costs to reflect the effective toll rate in MTA's Staten Island Resident Rebate Program
	Chapter 5C, "Social Conditions: Public Policy"	Reflects latest information on New York State's Climate Leadership and Community Protection Act
	Chapter 6, "Economic Conditions"	Reflects additional analysis on effects to small businesses, and incorporates new mitigation measures
	Chapter 10, "Air Quality"	Includes a direct link to the electronic versions of all the MOVES modeling conducted for the Project; provides additional detail on the PM microscale analysis; and clarifies conclusions for the 12-county air quality study area
	Chapter 16, "Summary of Effects"	Reflects updates to previously identified mitigation and enhancement measures, details about how and when these measures will be implemented, and adds new mitigation commitments ¹ ; also includes analysis of new mitigation commitments in relation to the conclusions of the EA
	Chapter 17, "Environmental Justice"	Summarizes supplemental data and additional analysis of existing health and pollutant burdens, and incorporates new mitigation measures
Appendices	Chapter 18, "Agency Coordination and Public Participation"	Includes additional outreach activities that took place after the EA was released for public review
	Appendix 4A.3, "Representative Commuting Costs by Auto and Transit"	Updates to reflect the effective toll rate in MTA's Staten Island Resident Rebate Program
	Appendix 17, "Environmental Justice"	Includes new Appendix 17D, Technical Memorandum and Appendix 17E, Approach to Mitigation for Low-Income Frequent Drivers
	Appendix 18, "Agency Coordination and Public Participation"	New appendix including all comments received during the formal comment period in 2022 and responses to those comments
	Appendix 19, "Section 4(f) Correspondence"	An unsigned letter from Mark Eberle, National Park Service was replaced with a signed copy of the letter

Note: ¹ Updated information on mitigation and enhancement measures was also incorporated throughout the following chapters and within the concluding sections of Subchapter 4C, "Transit"; Subchapter 4E, "Pedestrians and Bicycles"; Chapter 6, "Economic Conditions"; Chapter 7, "Parks and Recreational Resources"; Chapter 8, "Historical and Cultural Resources"; Chapter 10, "Air Quality"; Chapter 13, "Natural Resources"; Chapter 14, "Asbestos-Containing Materials, Lead-Based Paint, Hazardous Wastes, and Contaminated Materials"; Chapter 15, "Construction Effects"; and Chapter 17, "Environmental Justice."

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Abbreviations, Acronyms, and Initialisms

AADT.....	Annual Average Daily Traffic
AASHTO	Association of State Highway and Transportation Officials
ACM.....	Asbestos-Containing Materials
ACS.....	American Community Survey
ADA.....	Americans with Disabilities Act
APE	Area of Potential Effects
ATR	Automatic Traffic Recorder
AVE	Area of Visual Effect
BD	Central Business District
BPM	Best Practice Model
BQE.....	Brooklyn-Queens Expressway
Btu	British thermal units
CAA	Clean Air Act
CBD	Central Business District
CEQR.....	City Environmental Quality Review
CFR.....	Code of Federal Regulations
CH ₄	Methane
CHASP	Construction Health and Safety Plan
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e.....	CO ₂ Equivalents
CRIS.....	Cultural Resource Information System
CTPP.....	Census Transportation Planning Package
dB(A).....	A-weighted decibels
EA.....	Environmental Assessment
ECL	Environmental Conservation Law
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJ.....	Environmental Justice
EPA	U.S. Environmental Protection Agency
ESA.....	Endangered Species Act
ESA.....	East Side Access
FCA	Fare Control Area
FDR Drive.....	Franklin D. Roosevelt Drive
FHV	For-Hire Vehicle
FHWA.....	Federal Highway Administration
ftpm	feet per minute
GHG	Greenhouse Gas
GWBS	George Washington Bridge Bus Station
GWP.....	Global Warming Potential
HCS	Highway Capacity Software
HEI	Health Effects Institute
HEET	High Entry/Exit Turnstyle
HOT.....	High-Occupancy Toll

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HOV	High-Occupancy Vehicle
JFK Airport	John F. Kennedy Airport
LEP	Limited English Proficiency
LIRR	Long Island Rail Road
LN	Late Night
LOS	Level of Service
LPC	New York City Landmarks Preservation Commission
LWCFA	Land and Water Conservation Fund Act
MD	Midday
Metro-North	Metro-North Railroad
MOVES	(USEPA) Motor Vehicle Emission Simulator
mph	miles per hour
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
MTA	Metropolitan Transportation Authority
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NICE	Nassau Inter-County Express
NJ TRANSIT	New Jersey Transit Corporation
NJTPA	North Jersey Transportation Planning Authority
NMFS	National Marine Fisheries Service
NO ₂	Nitrogen Dioxide
NPS	National Park Service
NR	National Register of Historic Places
NRHP	National Register of Historic Places
NTP	Non-Toll Pricing
NWI	National Wetlands Inventory
NYC Parks	New York City Department of Parks and Recreation
NYCCAS	New York City Community Air Survey
NYCDCP	New York City Department of City Planning
NYCDOE	New York City Department of Education
NYCDOT	New York City Department of Transportation
NYCHD	New York City Historic District
NYCL	New York City Landmark and New York City Scenic Landmark
NYCRR	New York Codes, Rules, and Regulations
NYCT	New York City Transit
NYMTC	New York Metropolitan Transportation Council
NYPD	New York City Police Department
NYSDEC	New York State Department of Environmental Conservation
NYSDOP	New York Statewide Digital Orthoimagery Program
NYSDOT	New York State Department of Transportation
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PABT	Port Authority Bus Terminal

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PAH	Polycyclic Aromatic Hydrocarbon
PANYNJ	Port Authority of New York and New Jersey
PATH	Port Authority Trans-Hudson
Pb	Lead
pc/mi/ln	passenger cars per mile per lane (density)
PCB	Polychlorinated Biphenyl
PCE	Passenger Car Equivalent
PFAC	Program, Finance and Administration Committee
PM _{2.5} and PM ₁₀	Particulate Matter (2.5 microns and 10 microns)
ppb	parts per billion
ppm	parts per million
RFK Bridge	Robert F. Kennedy Bridge
SBS	Select Bus Service
SEQRA	State Environmental Quality Review Act
SFP	Square Feet per Pedestrian
SHPO	State Historic Preservation Office
SIE	Staten Island Expressway
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SOC	Standard Occupational Classification
TAZ	Traffic Analysis Zones
TBTA	Triborough Bridge and Tunnel Authority
TDM	Transportation Demand Management
TEM	The Environmental Manual
TIP	Transportation Improvement Program
Title VI	Title VI of the Civil Rights Act of 1964
TLC	New York City Taxi and Limousine Commission
UPARRA	Urban Park and Recreation Recovery Act
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
v/c ratio	volume-to-capacity ratio
VCE	Vertical Circulation Element
VIA	Visual Impact Assessment
VMT	Vehicle-Miles Traveled
VPPP	Value Pricing Pilot Program
XBL	Exclusive Bus Lane
µg/m ³	micrograms per cubic meter of air

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM FINAL ENVIRONMENTAL ASSESSMENT Executive Summary

April 2023

Federal Lead Agency



U.S. Department
of Transportation

**Federal Highway
Administration**

Project Sponsors



**Department of
Transportation**



The translation of the Executive Summary from the official English version into any other language is for the sole purpose of facilitating participation during the public comment period by persons of Limited English Proficiency (LEP) or those who prefer to read the document in their native language.

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The Executive Summary of the Environmental Assessment (EA) for the Central Business District (CBD) Tolling Program (the Project) presents a high-level summary of the Project, which includes:

- The Purpose, Need, and Objectives of the Project
- The Alternatives
- Project Effects
- Key Findings

Additional details related to the information in this Executive Summary may be found in the relevant chapters and appendices of the EA.

[Based on feedback received during the public comment period, and during the additional Environmental Justice Technical Advisory Group discussions, as well as guidance from FHWA, the EA was revised, resulting in a Final EA for the CBD Tolling Program. Where the term “EA” is used, it refers to the Final EA as made available to the public in 2023, unless otherwise specified. Differences between the EA and Final EA are described in the “Foreword.”]

WHAT IS THE CENTRAL BUSINESS DISTRICT TOLLING PROGRAM?

The Triborough Bridge and Tunnel Authority (TBTA) – an affiliate of the Metropolitan Transportation Authority (MTA) – the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT) (collectively, the Project Sponsors) are proposing the **Central Business District (CBD) Tolling Program** (the Project). The Project, a type of congestion pricing, would toll vehicles that enter or remain in the Manhattan CBD in order to reduce traffic congestion and generate revenue to fund \$15 billion to improve subway, bus, and commuter rail systems in MTA's 2020–2024 Capital Plan or successor plans.

Where is the Project proposed?

The Manhattan CBD consists of the geographic area of Manhattan south of and inclusive of 60th Street, not including the Franklin D. Roosevelt (FDR) Drive and the West Side Highway/Route 9A, the Battery Park Underpass and any surface roadway portion of the Hugh L. Carey Tunnel that connects to West Street (the West Side Highway/Route 9A).

The Manhattan CBD is the commercial center of a large metropolitan region of 28 counties in New York, New Jersey, and Connecticut that surrounds and includes New York City (**Figure ES-1**). Together these 28 counties are home to 22.2 million residents and more than 10.7 million jobs, making it the largest and most economically significant metropolitan region in the United States.

New York City alone contains roughly 4.6 million (43 percent) of the region's jobs and 8.4 million (38 percent) of the region's population.¹ The Manhattan CBD hosts 1.5 million jobs, 450 million square feet of office space, and more than 617,000 residents.² It is also a regional and national destination for commerce, entertainment, and tourism. **Chapter 1, "Introduction"** provides more information about the Project's setting.

How do people and goods get to and move around in the Manhattan CBD today?

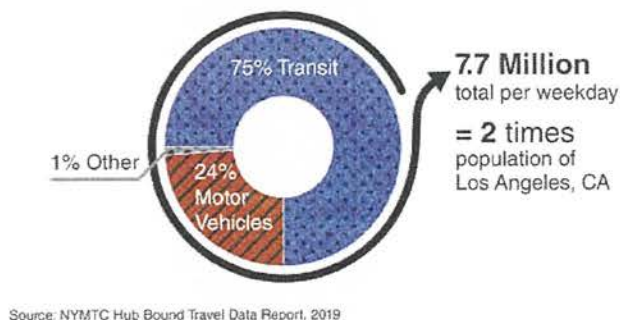
Manhattan is connected to the rest of the region by twenty vehicular bridges and tunnels, the nation's three largest commuter railroads, the largest subway system, and two of the five largest bus transit systems in the United States,³ as well as public and private ferry service, and tram service. Much of the public transportation operates 24 hours per day/7 days per week/365 days per year. **Chapter 4, "Transportation," Subchapter 4B, "Transportation: Highways and Local Intersections,"** and **Subchapter 4C, "Transportation: Transit"** provide detail on the region's highway, roadway, and transit systems.

Figure ES-1. The 28-County Region Study Area



People traveling to the Manhattan CBD arrive by public transportation (rail, subway, bus, tram, ferry, and paratransit), walk or ride a bicycle, or travel by passenger car, taxi, for-hire vehicle (FHV), or truck. Public transportation is used by most people to enter the Manhattan CBD, both for work and for leisure. According to the New York Metropolitan Transportation Council (NYMTC) *Hub Bound Travel Data Report*, approximately 7,665,000 people entered and exited the Manhattan CBD on an average weekday in 2019, nearly twice the population of Los Angeles, California (**Figure ES-2**).⁴ Seventy-five percent of these trips were made by transit, but an estimated 1,856,000 (24 percent) were made by car, taxi, van, or truck.⁵

Figure ES-2. People Entering [and Exiting] Manhattan CBD (by mode)



[According to the 2012-2016 American Community Survey, commuters use transit to access the Manhattan CBD at even higher rates, with 85 percent using transit and 11 percent using motor vehicles.⁶]

Where will the benefits and effects of the Project occur?

The 28-county metropolitan region is the main catchment area for trips to and from the Manhattan CBD. The Project would affect travel patterns within the Manhattan CBD and in other parts of the region. Travel patterns change more intensely when approaching and within the Manhattan CBD. To assess beneficial and adverse effects of the Project, the EA uses a combination of the regional 28-county study area and several local study areas. The local study areas change according to the issue being explored for effects. For example, the local study area used to assess the visual effects associated with installation of tolling infrastructure and tolling system equipment is much smaller than the local study area to assess air quality changes. Additional discussion of these study areas is provided in **Chapter 3, "Environmental Analysis Framework,"** and in each chapter throughout the EA.

What is an Environmental Assessment (EA) and why is it needed for this Project?

Before a Federal agency makes a decision, the National Environmental Policy Act (NEPA) requires the Federal agency to understand and disclose the environmental effects of the action. An EA (40 CFR §1501.5) is performed to ensure Federal agencies consider the environmental impacts of their actions in the decision-making process (40 CFR §1500.1(a)). For a proposed action that is not likely to have significant effects, or when the significance of the effect is unknown (40 CFR §1501.5(a)), the EA aids in determining the significance of the adverse effects. If the adverse effects are not significant or can be mitigated below significant levels, the Federal agency may issue a Finding of No Significant Impact (FONSI) (40 CFR §1501.6). If there are significant effects that cannot be mitigated, the Federal agency must develop an Environmental Impact Statement (EIS) leading to a Record of Decision (ROD).

The Value Pricing Pilot Program (VPPP) and National Environmental Policy Act (NEPA)

Established by the U.S. Congress as the Congestion Pricing Pilot Program in 1991, and renamed in 1998, the VPPP aims to demonstrate whether and to what extent congestion pricing strategies can reduce congestion, while also exploring the effects of these strategies on "driver behavior, traffic volumes, transit ridership, air quality and availability of funds for transportation programs."

Enacted in 1970, NEPA requires that Federal agencies assess the environmental effects of their proposed actions before making decisions. Providing approval to the Project under the VPPP would be an action by FHWA and is, therefore, subject to NEPA.

Sources:

FHWA. "Value Pricing Pilot Program."

https://ops.fhwa.dot.gov/congestionpricing/value_pricing/index.htm

United States Environmental Protection Agency. "What is the National Environmental Policy Act."

<https://www.epa.gov/nepa/what-national-environmental-policy-act>

Some roadways within the Manhattan CBD are part of the National Highway System and some have been improved with funding from the Federal government. In order to toll these roadways, the Project Sponsors need approval from U.S. Department of Transportation's Federal Highway Administration (FHWA), in this case through their Value Pricing Pilot Program (VPPP). When FHWA reviews a project sponsor's application to the VPPP with the intention of taking an action, it must comply with NEPA.

FHWA, as the lead Federal agency for the NEPA process, determined that an EA is the appropriate class of action for this Project as the Project's goals result primarily in operational changes, with very little physical impacts on the existing environment. The approach to reducing congestion in the Manhattan CBD lends itself to beneficial effects on air quality and quality of life.

FHWA recognizes that the Project could have effects on environmental justice populations. As a result, FHWA requested that the NEPA process include enhanced public outreach and coordination with Federal and state resource agencies.

WHY IS THE CBD TOLLING PROGRAM BEING CONSIDERED?

Traffic congestion has been a problem in the Manhattan CBD for many years,⁷ and has been one of New York City's most challenging policy problems for generations. As the regional population and commerce have grown, traffic has snarled with such regularity over the years that a new word was created to describe it: gridlock.⁸

NYCDOT, MTA, and other transportation agencies have implemented programs to reduce congestion, and improve transit, pedestrian, and bicycle accessibility in and to the Manhattan CBD. NYCDOT has repurposed curbside parking to establish bicycle lanes and increased pedestrian space with sidewalk and corner bump outs. It has also converted curbside lanes and general-purpose traffic lanes to dedicated bus lanes on certain Manhattan avenues and east–west, crosstown streets.

Additionally, MTA and other transit agencies offer reduced transit fares for the elderly, disabled, and school-aged children, and in early 2022, MTA implemented fare capping as part of its new fare system rollout (OMNY), which allows free, unlimited rides to customers the rest of the week once they have spent \$33 (the same as taking 12 trips). Many employers participate in a Federal program that allows employees to use pre-tax dollars to pay for transit, and many companies have adopted flexible work schedules, including options to work remotely.

Figure ES-3. Most Congested Urban Areas (2021)

United States	
1.	New York, NY
2.	Chicago, IL
3.	Philadelphia, PA
4.	Boston, MA
5.	Miami, FL

Source: INRIX, 2021

Despite these traffic-reduction initiatives, and despite the existence of the country's most extensive and robust public transit network, traffic congestion persists. In 2020 and 2021, New York City's traffic congestion ranked worst among the cities in the United States (**Figure ES-3**).⁹

State and City of New York officials and stakeholder and advocacy groups have conducted multiple studies over the past 45 years to determine the most effective way to address congestion in the Manhattan CBD. These studies overwhelmingly pointed to congestion pricing, or introduction of tolls based on traffic levels, as the most effective tool. **Chapter 2, "Project Alternatives,"** and **Appendix 2A, "Project Alternatives: Previous Studies and Concepts Considered,"** provide more information about other alternatives and these earlier studies.

PROJECT PURPOSE, NEED, AND OBJECTIVES

The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into FHWA's VPPP.

Why do we need to reduce traffic congestion?

Low travel speeds and unreliable travel times to, from, and within the Manhattan CBD increase commute and travel times for vehicles using the roadways, erode worker productivity, reduce bus and paratransit service quality, raise the cost of deliveries and the overall cost of doing business, and delay emergency vehicles. Thus, there is a need to reduce vehicle congestion in the Manhattan CBD to improve the reliability and efficiency of the transportation system.



Why do we need money for transit investment?

"The only way to end traffic jams in Manhattan and the approaches to it is by making public transportation better."
Regional Plan Association, *Regional Plan News*, No. 82,
February 1966

Transit is critical to New York City's overall economy, and to the region's residents, workers, and visitors, and continued investment in transit is necessary to ensure ongoing mobility and accessibility. ***[Indeed, MTA's transit system, and particularly the bus network, promotes equity by serving low-income and minority communities.]***

In 2019, MTA subways served 1.7 billion passengers and MTA buses carried 677.6 million passengers, providing access to employment, healthcare, education and the full range of services and entertainment options available throughout New York City. The 10 busiest subway stations in the MTA system are in the Manhattan CBD, and two of the 10 busiest MTA bus routes are in or serve the Manhattan CBD.¹⁰ The Long Island Rail Road and Metro-North Railroad were the busiest commuter rail systems in the United States in 2019, and Penn Station New York and Grand Central Terminal, both within the Manhattan CBD, are the two busiest passenger rail stations in North America.¹¹

Congestion by the Numbers

Cost of Congestion: 102 hours of lost time; nearly \$1,595 per year per driver in the New York City region.*

Travel Speeds: Decreased **[23%]** in the Manhattan CBD, from 9.1 miles per hour (mph) to 7.1 mph between 2010 and 2019.**

FHV Registrations: Tripled in New York City, from fewer than 40,000 to more than 120,000 between 2010 and 2019. Due to the effects of the COVID-19 pandemic and the city's continued cap on FHV registrations, the number of FHVs making trips fell to 70,000 by April 2022.†

Local Bus Speeds: Declined 28% in the Manhattan CBD since 2010. The average speed of Select Bus Service (New York City Transit's bus rapid transit service) routes in Manhattan are 19% slower than Select Bus Service routes in other boroughs.††

Sources:

* INRIX 2021 Global Traffic Scorecard. <https://inrix.com/scorecard-city/?city=New%20York%20City%20NY&index=5>

** NYCDOT. August 2019. New York City Mobility Report. <https://www1.nyc.gov/html/dot/downloads/pdf/mobility-report-print-2019.pdf>.

† New York City Taxi and Limousine Commission and NYCDOT. June 2019. *Improving Efficiency and Managing Growth in New York's For-Hire Vehicle Sector*; NYC TLC FHV trip data.

†† NYCDOT. August 2019. New York City Mobility Report. <https://www1.nyc.gov/html/dot/downloads/pdf/mobility-report-print-2019.pdf>; New York City Transit analysis.

MTA employs approximately 70,000 people, making it one of the largest individual employers in New York State (and larger than many small cities). Through its capital spending, MTA annually injects billions of dollars into the local economy, both through major infrastructure projects and day-to-day operations and maintenance programs, indirectly supporting thousands of additional jobs far beyond its direct employment.¹²

Beginning in 2017, MTA's operating agencies engaged in projects to address some root causes of declining service that had begun in 2010 and implemented improvements to commuter rail and subway infrastructure. As documented in MTA's 2020–2024 Capital Program, these projects resulted in substantial reductions in delay and improvements in on-time performance.¹³

Elements of MTA's commuter rail and subway system are more than 100 years old, and essential capital needs remain to ensure a state of good repair and to bring MTA's transit and rail assets into the 21st Century. The 2020–2024 Capital Program is intended to “build on these achievements, ensuring that the improvements put in place will be sustainable for years to come.”¹⁴ The program identifies \$52.0 billion of investments¹⁵ in the region's subways, buses, and commuter railroads. The following are key tenets of the 2020–2024 Capital Program.

- Investing to improve reliability
- Committing to environmental sustainability
- Building an accessible transit system for all New Yorkers
- Easing congestion and creating growth
- Improving safety and customer service through technology¹⁶

What are the Project objectives?

FHWA and the Project Sponsors have established the following objectives to further refine the Project purpose and address the needs described above.

- Reduce daily vehicle-miles traveled (VMT) within the Manhattan CBD by at least 5 percent
- Reduce the number of vehicles entering the Manhattan CBD daily by at least 10 percent
- Create a funding source for capital improvements and generate sufficient annual net revenues to fund \$15 billion for capital projects for the MTA Capital Program
- Establish a tolling program consistent with the purposes underlying the New York State legislation entitled the MTA Reform and Traffic Mobility Act¹⁷

WHAT ARE THE PROJECT ALTERNATIVES?

FHWA and the Project Sponsors screened a number of preliminary alternatives against the Project purpose, need, and three of the four objectives (**Table ES-1**). **Chapter 2, “Project Alternatives,”** provides this analysis in further detail. The CBD Tolling Alternative is the alternative that meets the purpose, need and three objectives of the Project. Thus, for the purposes of this EA, there are two alternatives:

- **No Action Alternative**, which would not implement a vehicular tolling program in the Manhattan CBD
- **CBD Tolling Alternative (Action Alternative)**, which would implement a vehicular tolling program in the Manhattan CBD

Although the No Action Alternative does not meet the Project purpose and objectives, NEPA regulations require that it be evaluated and serve as the baseline condition against which the potential effects of the CBD Tolling Alternative are evaluated.

No Action Alternative

The No Action Alternative assumes the following existing policies and programs would continue and a number of planned initiatives would be implemented, including:

- A cap on the number of FHV licenses in New York City would remain.
- The two-way, protected bicycle lanes on the Brooklyn Bridge, implemented by NYCDOT in fall 2021, would remain.¹⁸
- NYCDOT would continue the current configuration of two lanes in each direction between Atlantic Avenue and the Brooklyn Bridge on the Brooklyn-Queens Expressway; it would initiate repairs to the bridges and structures between Atlantic Avenue and Sands Street.¹⁹
- NYCDOT would convert a traffic lane to a pedestrian walkway on the Ed Koch Queensboro Bridge lower level, and the existing shared-use path on the north side of the lower level would be used only for bicycles.
- TBTA and the Port Authority of New York and New Jersey (PANYNJ) would continue tolling at their bridges and tunnels, while the East River Bridges and Harlem River Bridges would remain untolled. **Chapter 1, “Introduction,”** provides more information on *[existing]* tolls.
- MTA would continue to implement transit and rail improvement projects in its 2020–2024 Capital Program, based on the funding available. **Appendix 4A.1, Table 4A.1-3**, provides information on recent transit and rail improvement projects included in the EA analysis.
- NYCDOT and other New York City agencies would continue programs established in response to the COVID-19 pandemic, including the closure of certain sections of streets to vehicular traffic (“Open Streets”) and the use of curbside parking lanes for outdoor dining (“Open Restaurants”).
- NYCDOT would continue to develop bicycle and bus infrastructure including new bicycle and bus lanes.²⁰ **Chapter 4E, “Transportation: Pedestrians and Bicycles,”** provides further information on recently implemented and planned bicycle improvements.

Central Business District Congestion Pricing Program Environmental Impact Statement – Evaluation Appendix

Table ES-1. Results of Preliminary Alternatives Screening¹

ALTERNATIVE	PURPOSE AND NEED: Reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements	OBJECTIVE 1: Reduce daily vehicle-miles traveled (VMT) within the Manhattan CBD Criterion: Reduce by 5% (relative to No Action)	OBJECTIVE 2: Reduce the number of vehicles entering the Manhattan CBD daily Criterion: Reduce by 10% (relative to No Action)	OBJECTIVE 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund \$15 billion for capital projects for MTA's Capital Program
NA-1: No Action	Does not meet	Does not meet	Does not meet	Does not meet
NTP-1: Parking pricing strategies	Does not meet	Does not meet (see note 2)	Does not meet	Does not meet (see note 2)
T-1: Pricing on full roadways: Raise tolls or implement variable tolls on existing toll facilities	Does not meet	Does not meet (see note 3)	Does not meet (see note 3)	Does not meet
T-2: Pricing on full roadways: Toll East and Harlem River bridges	Does not meet (see note 4)	Meets	Meets	Does not meet (see note 4)
T-3: High-occupancy toll (HOT) lanes	Does not meet (see note 5)	Does not meet	Does not meet	Does not meet (see note 5)
T-4: Zone-based pricing: CBD Tolling Program	Meets	Meets	Meets	Meets
O-1: Parking pricing: Reduce government-issued parking permits	Does not meet	<i>[Does not meet (see note 6)]</i>	<i>[Does not meet (see note 6)]</i>	Does not meet
O-2: Provide additional taxi stands to reduce cruising	Does not meet	Does not meet (see note [7])	Does not meet	Does not meet
O-3: Create incentives for teleworking	Does not meet	Does not meet	Does not meet (see note [8])	Does not meet
O-4: Ration license plates	Does not meet	Meets	Meets	Does not meet
O-5: Mandatory carpooling	Does not meet	Meets	Meets	Does not meet
O-6: Truck time-of-day delivery restrictions	Does not meet	Does not meet (see note [9])	Does not meet (see note [9])	Does not meet

*Central Business District (CBD) Tolling Program Environmental Assessment – Executive Summary***Notes for Table ES-1**

- ¹ Screening was based on a variety of prior studies and documents, including the following: New York City Traffic Congestion Mitigation Commission, "Congestion Mitigation Strategies: Alternatives to the City's Plan" (December 10, 2007); and "Report to the Traffic Congestion Mitigation Commission & Recommended Implementation Plan" (January 31, 2008), and its appendices, including Cambridge Systematics, Inc., "Technical Memorandum: Telecommuting Incentives," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Night Delivery Incentives," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Congestion Reduction Policies Involving Taxis," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Increase Cost of Parking in the Manhattan Central Business District (CBD)," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007).
- ² For NTP-1: VMT reduction was estimated at substantially less than 1 percent. Further, there is no law or agreement in place between the City of New York and MTA that would direct the revenue generated from this alternative to MTA to support the Capital Program.
- ³ For T-1: This alternative would generate revenue, but the annual net revenues would not be sufficient to fund \$15 billion for capital projects for MTA's Capital Program. The revenue as well as reduction in VMT and number of vehicles with this alternative depends on how high the toll is raised and whether tolls are increased only on Triborough Bridge and Tunnel Authority (TBTA) facilities or both TBTA and Port Authority of New York and New Jersey facilities. However, with some crossings remaining untolled, traffic would divert to untolled facilities, thereby reducing the revenue and not reducing traffic. Further, this alternative would not target congestion in the Manhattan CBD, given that a number of free entry points to the Manhattan CBD would remain available.
- ⁴ For T-2: Earlier studies showed this alternative would reduce congestion and could raise toll revenues equivalent to project objectives. However, there is no law or agreement in place between the City of New York and MTA that would direct the revenue to MTA to support the Capital Program. *[In addition, the 2008 New York City Traffic Congestion Mitigation Commission Study identified a number of disadvantages to this alternative, including that this alternative would not address trips that start and end within Manhattan, such as trips beginning or ending on the Upper East Side and Upper West Side; and that this alternative would adversely affect local trips between the South Bronx and Harlem/Washington Heights, which could result in a local adverse economic impact in two environmental justice communities.]*
- ⁵ For T-3: HOT Lanes can be effective revenue generators, but their ability to reduce congestion and raise enough revenue to meet the target is limited due to the availability of free lanes on the same highway.
- ^[6] *[For O-1: Earlier studies concluded that reducing parking placards issued to government employees would reduce VMT south of 86th Street by 0.1 to 0.3 percent, depending on the size of the reduction (reductions evaluated ranged from 3,000 to 10,000 placards). With this level of VMT reductions, this alternative also would not reduce the number of vehicles entering the Manhattan CBD enough to meet the Project objective.]*
- ^[7] For O-2: Provision of additional taxi stands would have no effect on the number of taxis entering the Manhattan CBD and would not necessarily reduce VMT since taxis would need to travel back to a taxi stand after discharging customers. Further, this alternative would not broadly address VMT for all vehicles, nor would it reduce the number of vehicles entering the Manhattan CBD.
- ^[8] For O-3: Earlier studies concluded that this alternative would reduce New York City commute trips by less than two percent. Recent experience with the COVID-19 pandemic has supported that conclusion. As the region returns to normal business activities, following large-scale, full-time teleworking, many office workers are continuing to telework, but traffic levels are returning to close to pre-COVID-19 pandemic levels (for more information, see **Chapter 1, "Introduction," Section 1.4.1**). With such minimal impact, even combining this alternative with others like NTP-1 or O-2 would not yield congestion reductions and new revenue to meet the project's purpose, need and objectives.
- ^[9] For O-6: To be successful, truck time-of-day restrictions would require receivers to be open and willing to receive the vehicles in overnight hours. Further, depending upon how the restrictions are implemented, some large trucks might instead send multiple small trucks, thereby increasing vehicle numbers and VMT.

CBD Tolling Alternative (Action Alternative)

The CBD Tolling Alternative would toll vehicles entering or remaining in the Manhattan CBD. Noncommercial passenger vehicles entering the CBD would be tolled once per day. Vehicles that remain in the Manhattan CBD are vehicles that are detected leaving, but not detected entering the same day. Given that they were detected leaving, they must have driven through the Manhattan CBD and, therefore, remained some portion of the day. Noncommercial passenger vehicles would be tolled no more than once a day. There would be exemptions for qualifying vehicles transporting a person with disabilities and qualifying authorized emergency vehicles.

Residents whose primary residence is inside the Manhattan CBD and whose New York State adjusted gross income is less than \$60,000 would be eligible for a New York State tax credit equal to the amount of Manhattan CBD tolls paid during the taxable year.

The toll amount would be variable, with higher tolls charged during peak periods when congestion is greater. Because the effects are closely related to the toll structure, the CBD Tolling Alternative evaluated a range of toll structures in defined tolling scenarios. In most of these tolling scenarios, the toll rates for different types of vehicles, like delivery trucks, are different than the toll rates for noncommercial passenger vehicles.

Beneficial and Adverse Effects: What is important to know about the tolling scenarios in the CBD Tolling Alternative?

A decision on the actual toll structure will occur after the EA is completed. A Traffic Mobility Review Board (TMRB) ***[has been established consistent with the MTA Reform and Traffic Mobility Act]*** to develop recommendations on toll rates, exemptions, crossing credits applied against the CBD toll for tolls paid on other toll tunnels or bridges, and/or discounts. For the EA, to explore the range of effects that could occur with the CBD Tolling Alternative, the Project Sponsors initially developed six tolling scenarios (A–F). Each scenario includes different combinations of crossing credits, potential discounts (in the form of caps), and exemptions (**Table ES-2**). After the early public outreach, and given concerns expressed regarding diversions of truck traffic, a seventh scenario (G) was added to avoid some of these traffic effects. **Chapter 2, “Project Alternatives,”** provides more detail on each scenario while **Subchapter 4A, “Transportation: Regional Transportation Effects and Modeling”** and **Subchapter 4B, “Transportation: Highways and Local Intersections,”** provides more information on traffic effects.

How and When Would I be Tolled?

Below are some examples of when and how the toll would be applied.

- A car drives into the Manhattan CBD on Monday morning and leaves Monday evening before midnight. It would be detected when it enters and when it leaves the Manhattan CBD. Because passenger vehicles would be charged only once daily, a single toll would be charged.
- A car drives into the Manhattan CBD on Monday, and parks until it leaves on Wednesday. It would be charged entering on Monday and for remaining when it drove through the Manhattan CBD on Wednesday to leave. It would not be charged when it was parked the full 24-hours on Tuesday.
- A car makes two round trips into the Manhattan CBD on the same day. It would be charged a single toll, because passenger vehicles would be charged only once daily.
- A car is parked all week within the Manhattan CBD and then leaves the Manhattan CBD for a day trip on Saturday, returning before midnight. The car would be detected leaving (remaining) and entering the Manhattan CBD on the same day. Because passenger vehicles would be charged only once daily, a single toll would be charged on Saturday.
- A car is parked all week within the Manhattan CBD and then leaves the Manhattan CBD on Friday and returns on Monday. The car would be detected leaving (remaining) on Friday and entering when it returns on Monday. It would receive a charge on Friday for remaining and on Monday for entering. It would not be charged any other days when it was parked the entire day in the Manhattan CBD, nor the days when it was away.

Introduction to the Tolling (CBD) Project: Potential Environmental and Social Impacts - Executive Summary

Table ES-2. Tolling Scenarios Evaluated for the CBD Tolling Alternative

PARAMETER ¹	SCENARIO A	SCENARIO B	SCENARIO C	SCENARIO D	SCENARIO E	SCENARIO F	SCENARIO G
	Base Plan	Base Plan with Caps and Exemptions	Low Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	High Crossing Credits for Vehicles Using Tunnels to Access the CBD	High Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	High Crossing Credits for Vehicles Using Manhattan Bridges and Tunnels to Access the CBD, with Some Caps and Exemptions	Base Plan with Same Tolls for All Vehicle Classes
Time Periods²							
Peak: Weekdays	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 10 a.m.; 4 p.m. to 8 p.m.	6 a.m. to 8 p.m.
Peak: Weekends	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.
Off Peak: Weekdays	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.
Overnight: Weekdays	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	8 p.m. to 6 a.m.	10 p.m. to 6 a.m.
Overnight: Weekends	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.
Potential Crossing Credits							
Credit Toward the CBD Toll for Tolls Paid at the Queens-Midtown, Hugh L. Carey, Lincoln, Holland Tunnels	No	No	Yes	Yes	Yes	Yes	No
Credit Toward the CBD Toll for Tolls Paid at the Robert F. Kennedy, Henry Hudson, George Washington Bridges	No	No	No	No	No	Yes	No
Potential Exemptions and Limits (Caps) on Number of Tolls per Day							
Cars, motorcycles, commercial vans	Once per day	Once per day	Once per day	Once per day	Once per day	Once per day	Once per day
Taxis	No cap	Once per day	Exempt	No cap	Exempt	Once per day	No cap
FHVs	No cap	Once per day	Three times per day	No cap	Three times per day	Once per day	No cap
Small and large trucks	No cap	Twice per day	No cap	No cap	No cap	Once per day	No cap
Buses	No cap	Exempt	No cap	No cap	Transit buses—Exempt No cap on others	Exempt	No cap
Approximate Toll Rate Assumed³							
Peak	\$9	\$10	\$14	\$19	\$23	\$23	\$12
Off Peak	\$7	\$8	\$11	\$14	\$17	\$17	\$9
Overnight	\$5	\$5	\$7	\$10	\$12	\$12	\$7

¹ The parameters in this table were assumed for modeling purposes to evaluate the range of potential effects that would result from implementation of the CBD Tolling Alternative. Actual toll rates, potential credits, exemptions and/or discounts, and the time of day when toll rates would apply would be determined by the TBTA Board after recommendations are made by the Traffic Mobility Review Board. **Appendix 2E, "Project Alternatives: Definition of Tolling Scenarios,"** provides more detailed information on the rates, potential crossing credits, exemptions, and/or discounts assumed for each tolling scenario.

² Tolls would be higher during peak periods when traffic is greatest. These would be set forth by TBTA in the final toll schedule. All tolling scenarios include a higher toll on designated "Gridlock Alert" days, although the modeling conducted for the Project did not reflect this higher toll since it considers typical days rather than days with unusually high traffic levels.

³ Toll rates are for autos, commercial vans, and motorcycles using E-ZPass and are rounded. For all tolling scenarios, different rates would apply for vehicles not using E-ZPass; for Tolling Scenarios A through F, different vehicle classes would pay different tolls (see **Appendix 2E, "Definition of Tolling Scenarios"**). The peak E-ZPass rate (rounded) range across tolling scenarios for small trucks would be \$12-\$65; for large trucks, the range would be \$12-\$82.

There are several components to the toll structure, but the most important factor in the magnitude and distribution of effects from the Project is the toll rate. Overall, the Project would result in a congestion benefit both regionally and within the Manhattan CBD. On a local level, depending on the toll structure, near and adjacent to the Manhattan CBD there would be increases or decreases in traffic volumes as vehicles divert to other routes to avoid the toll. **Table ES-5** provides additional information regarding these effects and proposed mitigation. The following trends are important to understand:

- All the tolling scenarios would reduce traffic entering the Manhattan CBD.
- All the tolling scenarios would have an overall net benefit in congestion reduction for the region.
- Adding discounts, crossing credits, and exemptions would require that the overall toll rates increase, leading to more congestion reduction.
- Higher toll rates would reduce traffic, and increase transit ridership entering the Manhattan CBD.
- Higher toll rates would increase traffic diversions as drivers avoid the toll. This would lead to less traffic in the Manhattan CBD, and changes in traffic patterns outside of the CBD, with both increases and decreases of traffic in localized locations elsewhere.
- Crossing credits, which would credit some of the amount drivers pay for TBTA or PANYNJ tolls against the CBD toll, would bring the total costs of different routes into the CBD closer to parity and therefore change the degree to which, and balance of where, traffic reductions occur.
 - ❖ Tolling scenarios with crossing credits would have less effect on reducing traffic entering the Manhattan CBD from Queens, and much less effect on reducing traffic entering from New Jersey than tolling scenarios without crossing credits. Tolling scenarios with crossing credits would lead to greater decreases in traffic entering from north of 60th Street and Brooklyn.
 - ❖ Crossing credits would encourage some drivers to shift from the currently-free East River Bridges to TBTA's tolled tunnels. As a result, traffic would increase at the Queens-Midtown Tunnel and the Hugh L. Carey Tunnel, resulting in more traffic on the Long Island Expressway and a shift of traffic along the Gowanus Expressway from the BQE to the Hugh Carey Tunnel, as well as increases in traffic on the local streets in Manhattan that feed traffic to and from these tunnels.

In addition to the toll rate and crossing credits, several other factors play a role in generating beneficial and adverse effects.

Truck toll price. Unlike cars, trucks cannot shift to a different mode (e.g., transit). For trucks traveling through the CBD en route to their final destination, their only alternative to paying the toll is to not make the trip or divert around the Manhattan CBD. Similar to the general traffic, increased tolls decrease truck traffic entering the Manhattan CBD. Truck diversion increases with increases in the toll (similar to general traffic). In particular, trucks would divert to routes on highways in Staten Island and in the South Bronx.

Time of day. Reducing the toll in the overnight period would reduce diversions to alternative routes, lessening effects outside the Manhattan CBD and encouraging delivery vehicles to shift to the less-congested overnight

Public Outreach Response

In response to concerns raised during the early Public Outreach related to increased truck traffic on the Cross Bronx Expressway and the fact that trucks do not have an alternate mode of travel to avoid the toll, Scenario G was added. This scenario charges the same toll rate for cars and trucks and significantly reduces truck diversions in the South Bronx and Staten Island. See **Chapter 4A, "Regional Transportation Effects and Modeling."**

period. Though not as substantial with this lower overnight charge, traffic reductions would still occur.

HOW DOES THE ACTION ALTERNATIVE MEET THE PROJECT OBJECTIVES?

FHWA will consider the No Action and the CBD Tolling Alternative (Action Alternative) as a whole, while being mindful that the Action Alternative includes a range of potential tolling scenarios. **Table ES-3** summarizes how the No Action and the Action Alternative meet the Project purpose, needs, and objectives.

Table ES-3. Comparison of Evaluation Results for the No Action and CBD Tolling Alternatives

SCREENING CRITERION	NO ACTION ALTERNATIVE	CBD TOLLING (ACTION) ALTERNATIVE
Purpose and Need: Reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements	DOES NOT MEET	MEETS
Objective 1: Reduce daily vehicle-miles traveled (VMT) within the Manhattan CBD Criterion: Reduce by 5% (relative to No Action) <i>Daily VMT reduction (2023)</i>	DOES NOT MEET 0%	MEETS 7.1% - 9.2%
Objective 2: Reduce the number of vehicles entering the Manhattan CBD daily Criterion: Reduce by 10% (relative to No Action) <i>Daily vehicle reduction (2023)</i>	DOES NOT MEET 0%	MEETS 15.4% - 19.9%
Objective 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund \$15 billion for capital projects for MTA's Capital Program <i>Net revenue to support MTA's Capital Program²</i>	DOES NOT MEET \$0	MEETS ¹ \$1.02 billion - \$1.48 billion
Objective 4: Establish a tolling program consistent with the purposes underlying the New York State legislation entitled the "MTA Reform and Traffic Mobility Act"	DOES NOT MEET	MEETS

¹ Although Tolling Scenario B would not meet Objective 3 with the toll rates identified and assessed in this Environmental Assessment (EA), additional analysis was conducted to demonstrate that it would meet this objective with a higher toll rate; the resulting VMT reduction and revenue for that modified scenario would fall within the range of the other scenarios presented.

Chapter 16, "Summary of Effects," provides more information on the modified Tolling Scenario B.

² The net revenue needed to fund \$15 billion depends on a number of economic factors, including but not limited to interest rates and term. For the purposes of this EA, the modeling assumes the Project should provide at least \$1 billion annually in total net revenue, which would be invested or bonded to generate sufficient funds. The net revenue values provided in this table are rounded and based on Project modeling.

As described in the EA, the TBTA Board would adopt a final toll structure, including toll rates and any crossing credits, discounts, and/or exemptions, informed by recommendations made by the Traffic Mobility Review Board and following a public hearing in accordance with the State Administrative Procedure Act.

What are the effects of the Project?

This EA analyzes 18 resource areas. **Figure ES-4** identifies those where there would be only beneficial or no adverse effects from the Project, and those areas that have identified potential adverse effects that will be mitigated. In the case of potential adverse effects, some of these adverse effects would only occur in certain tolling scenarios. **Table ES-[5]** provides more detail on which tolling scenarios would result in beneficial or adverse effects, to what degree, and what mitigation measures will be instituted. **Table ES-6** summarizes when and how these

mitigation measures will be implemented by the Project Sponsors]. Each respective chapter provides additional description and discussion.

Figure ES-4. Resource Areas and Effects Assessed in the EA

Areas with Only Beneficial or No Adverse Effects	Areas with Potential Adverse Effects
Transportation: Regional Transportation Transportation: Parking Social Conditions: Population Social Conditions: Neighborhood Character Social Conditions: Public Policy Economic Conditions Energy Parks and Recreational Resources Historic and Cultural Resources Visual Resources Air Quality Energy Noise Natural Resources Hazardous Waste/Contaminated Materials Construction Effects	Transportation: Highways and Intersections Transportation: Transit Transportation: Pedestrians and Bicycles Environmental Justice

What are the effects of the Project on environmental justice populations?

Some of the Project effects occur in certain locations, so attention was given to whether these effects occurred broadly across the region or population, or whether they affect communities or populations of those who are low-income or historically underrepresented (environmental justice communities or populations). The following paragraphs provide additional explanation about related beneficial or adverse effects.

Reduced traffic would benefit all drivers traveling to and near the Manhattan CBD, including environmental justice populations, by improving travel times, reducing vehicle operating costs, and improving safety. ***[Investments in transit would also benefit environmental justice populations who use MTA's subways and buses to access work, school, medical care, and more.]*** The Project would improve regional air quality, and most environmental justice populations who live in the Manhattan CBD would experience lower localized pollutant emissions due to reduced traffic. Additional benefits are described in **Chapter 17, "Environmental Justice."**

Low-income drivers

The cost of the new CBD toll would not be predominantly borne by low-income drivers. However, for low-income drivers who have no ***[reasonable]*** alternative to reach the Manhattan CBD other than private vehicle, the effect of that cost would be more burdensome because the cost of the toll would consume a larger percentage of their available income. ***[As such, the EA as published in August 2022 found that a disproportionately high and adverse effect would potentially occur for low-income drivers to the Manhattan CBD who do not have a reasonable alternative transportation mode for reaching the Manhattan CBD. This is particularly relevant for low-income frequent drivers to the Manhattan CBD.²¹ In addition to the mitigation previously offered, which will reduce barriers to benefiting from lower E-ZPass toll rates (compared to Tolls by Mail) and existing toll discounts available to certain***

E-ZPass customers, as well as the new mitigation measure of a significantly reduced toll during the overnight period, TBTA also commits to a low-income discount plan for these drivers.

Specifically, TBTA will ensure that for the first five years of the Project, the final tolling structure includes a discounted toll rate for low-income frequent drivers who have either a Federal adjusted gross income reported on their income tax return for the prior calendar year in the amount of no more than \$50,000 or proof of enrollment in a qualifying government-provided income-based program (such as the Supplemental Nutrition Assistance Program (SNAP) or the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)).²² As examples, a frequent driver could be someone commuting to work or someone who regularly visits a facility for medical care.

Through the use of their E-ZPass tag and an associated Low-Income Discount Plan on their E-ZPass account, qualifying drivers will benefit from a 25 percent discount on the full CBD E-ZPass toll rate for the applicable time of day after the first 10 trips in each calendar month. (This discount will not include the overnight period, which will already be deeply discounted.)

This new mitigation, combined with the other mitigation measures described in the EA, several of which eliminate barriers to becoming an E-ZPass customer,²³ will ensure that the Project does not result in a disproportionately high and adverse effect on low-income drivers to the Manhattan CBD.

The box below describes all the mitigation measures associated with low-income drivers. Additional information on each of these may be found in Tables ES-5 and ES-6 at the end of the Executive Summary.]

To [ensure that the Project does not result in a potential] disproportionately high and adverse effect on low-income drivers who [have no other reasonable alternative to driving], the Project Sponsors will institute the following mitigation and enhancement [measures].

MITIGATION

The Project will include a tax credit for CBD tolls paid by residents of the Manhattan CBD whose New York adjusted gross income for the taxable year is less than \$60,000. TBTA will coordinate with the New York State Department of Taxation and Finance (NYS DTF) to ensure availability of documentation needed for drivers eligible for the NYS tax credit.*

TBTA will post information related to the tax credit on the Project website, with a link to the appropriate location on the NYS DTF website to guide eligible drivers to information on claiming the credit.

TBTA will eliminate the \$10 E-ZPass tag deposit fee for customers without credit card backup.

TBTA will provide enhanced promotion of existing E-ZPass payment and plan options, including the ability for drivers to pay per trip (rather than a pre-load balance), refill their accounts with cash at participating retail locations, and discount plans already in place, about which they may not be aware.

TBTA will provide outreach and education on eligibility for existing discounted transit fare products and programs, including those for individuals 65 years of age and older, those with disabilities, and those with low incomes, about which many may not be aware.

The Project Sponsors commit to establishing an Environmental Justice Community Group that will meet on a [quarterly] basis, [with the first meeting prior to project implementation], to share updated data and analysis and listen to potential concerns.

[TBTA will ensure the overnight toll rate is reduced to at or below 50 percent of the peak toll from at least 12:00 a.m. to 4:00 a.m. in the final CBD tolling structure, which will benefit low-income drivers traveling during this time.]

[TBTA commits that for the first five years of the Project, the final tolling structure will include a discounted toll rate for low-income frequent drivers who have either a Federal adjusted gross income reported on their income tax return for the prior calendar year in the amount of no more than \$50,000 or proof of enrollment in a qualifying government-provided income-based program. Through the use of their E-ZPass tag and an associated Low-Income Discount Plan on their E-ZPass account, qualifying drivers will benefit from a 25 percent discount on the full CBD E-ZPass toll rate for the applicable time of day after the first 10 trips in each calendar month (not including the overnight period, which will already be deeply discounted).]

ENHANCEMENT

NYC's buses serve a greater share of low-income and minority households compared to other modes of transportation, including subways. [MTA NYCT, when redesigning its bus networks, took into consideration areas with higher rates of low-income and minority households.] The recently implemented Bus Network Redesigns in Staten Island and the Bronx have been well-received. Network redesigns in Queens and Brooklyn are progressing. TBTA commits to working with MTA NYCT to address areas identified in the EA where bus service could be improved as the Brooklyn and Manhattan Bus Network Redesigns move forward.

[*Although some people might not earn enough annually to have to file a tax return, they may still opt to submit a tax return to claim the credit. Free tax filing programs are available for qualifying individuals through the NYS Department of Taxation and Finance and the NYC Department of Consumer and Worker Protection (DCWP).]

Taxis and FHVs

Tolling scenarios **[B, C, E, and F]** include exemptions or discounts (in the form of caps) on the number of trips that can be charged for taxis and/or FHV's. Exemptions and caps decrease the toll burden on taxi/FHV drivers, while increasing the toll rate for other drivers to meet the Project's congestion and revenue objectives. If taxis and FHV's are charged for each trip **[as in Tolling Scenarios A, D, and G]**, the demand for their service would decline, particularly in New York City, reducing trips and better meeting the Project objectives, but creating new direct costs and/or potential job insecurity. **Table ES-[5]** provides information on the magnitude of these effects. Because many New York City taxi and FHV drivers identify as part of an environmental justice population, this would result in **[potential]** disproportionately high and adverse effects **[without mitigation]**.

[The EA released in August 2022 proposed several mitigation measures to address potential job insecurity. However, as a result of input during the public comment period, in this Final EA, new mitigation is proposed in place of those measures. Specifically, TBTA will ensure that these vehicles are not tolled more than once per day. With the addition of this new mitigation commitment, the Project will not result in a disproportionately high and adverse effect on taxi and FHV drivers in New York City.²⁴]

[To ensure that the Project does not result in a potential disproportionately high and adverse effect on New York City taxi and FHV drivers, TBTA will institute the following mitigation.

MITIGATION

TBTA will ensure that New York City taxis and FHV's are not tolled more than once per day in the adopted CBD toll structure.*]

[* Subchapter 4A describes the potential adverse effects and also provides additional narrative regarding what would occur in Tolling Scenarios A, D, and G if these vehicles were to be capped at once per day or exempted from the CBD toll. In each case, the potential effects fall within the range of effects explored through the tolling scenarios in the EA. Further, on page ES-24 of this Executive Summary, there is additional discussion regarding the range of effects, with specific attention to how the mitigation measures could change the effects of the Project. As explained, additional analysis conducted demonstrates that the results from these mitigation measures will still be within the range of effects explored in the EA. Finally, for discussion related to how this mitigation affects the analyses for each chapter, see Chapter 3, "Environmental Assessment Framework," Section 3.3.3.]

[Traffic changes in environmental justice communities

As a result of traffic diversions as drivers seek to avoid the new toll, some environmental justice communities would experience lower traffic volumes; others would see increases in traffic. Following publication of the EA in August 2022, and based on public comments and input from the Environmental Justice Technical Advisory Group, the Project Sponsors conducted additional analysis related to these potential diversions. For the entire analysis, refer to Appendix 17D, "Technical Memorandum;" the following paragraphs provide a high-level summary of findings and conclusions.

Air pollutants associated with traffic and truck traffic. Appendix 17D, "Technical Memorandum" describes how and why traffic, and particularly truck traffic, contributes to pollutant burdens and the association between these burdens and health outcomes. Specifically, vehicles contribute to air pollutants like carbon monoxide, mobile source air toxics, nitrogen oxides, and particulate matter through brake and tire particulates, dispersal of roadway dust, and through the burning of fossil fuels in combustion engines.²⁵

Although all motor vehicles produce air pollutants, emissions from trucks are of particular concern to near-road air quality, in part because of the pollutants they emit, but also because they disproportionately contribute more emissions than other types of vehicles.²⁶

Thus much of the analysis focuses on truck traffic; however, to ensure that the full range of effects is explored, Appendix 17D, “Technical Memorandum” also explores effects of the Project on non-truck traffic.

Past land-use and transportation practices, trends and burdens. The analysis in Appendix 17D, “Technical Memorandum” also provides a broader context by describing pre-existing pollutant and chronic disease burdens, as well as past land use policies and related trends in pollutant emissions and associated health outcomes. The region’s highway network was developed in the mid-20th Century and, in many cases, highway construction cut through apartment blocks, displacing residents and businesses. In other cases, the highways formed physical boundaries between neighborhoods, isolating residents from commercial centers and from former neighborhoods (e.g., the Cross Bronx Expressway). Over time, many neighborhoods adjacent to highways experienced an exodus of residents who were replaced by new ethnic or economic groups, leading to marked neighborhood change in some places, as new residents established new ethnic enclaves, many of which were minority and/or low-income.²⁷ Beyond land use and transportation practices, other policies and practices have contributed to or amplified these effects. For example, in some areas, discriminatory real estate practices such as redlining severely restricted where minority populations could locate, concentrating minority communities in certain areas.²⁸

Regional air quality has been improving for many years, but the people of the 10-county study region – whether they live in communities designated as environmental justice communities or in other communities – are burdened with high levels of air pollutants and associated chronic disease, when compared to the rest of the United States (see Appendix 17D, “Technical Memorandum” for details on specific locations).

Summary of effects on truck traffic. All of the 434 census tracts within 300 meters of a highway²⁹ – both those that are environmental justice communities and those that are not – have at least one pollutant burden at or above the 80th national percentile or at least one chronic-disease burden above the 66.66th percentile, including 284 census tracts that could experience decreases or increases in truck traffic proximity (a measure of exposure to truck traffic) as a result of the Project.³⁰ The proportion of environmental justice census tracts existing within 300 meters of a highway (71.7 percent) mirrors the overall proportion of environmental justice census tracts in the 10-county environmental justice study area as a whole (70.6 percent).

Increases in truck traffic in currently overburdened communities, relative to national percentiles, would constitute an adverse effect. The analysis found that a larger number of census tracts identified as environmental justice tracts (56) would experience reduced truck traffic proximity when compared to non-environmental justice tracts (23); in essence, more environmental justice tracts than non-environmental census tracts would benefit from Project-related reductions in truck traffic. Further, roughly the same proportion of environmental justice and non-environmental justice communities would see decreases in traffic truck proximity related to the Project. However, while 41 percent of non-environmental justice census tracts would experience increases in truck traffic proximity, 50 percent of environmental justice census tracts would experience increases that would not be completely alleviated by the overall beneficial effects of the Project.

Summary of effects on non-truck traffic. Similar modeling was performed for non-truck traffic proximity changes resulting from the Project. In this case, 35 environmental justice communities with at least one census tract demonstrating a pre-existing air pollutant burden or chronic disease burden would potentially experience a decrease in highway non-truck traffic proximity. However, 33 communities with these same pre-existing air pollutant or chronic disease burdens could experience an increase in non-truck traffic

proximity. All but 11 of these communities were also identified during the analysis of truck traffic. The results from this analysis and concerns raised by environmental justice communities drew particular attention to a projected increase in traffic on the FDR Drive, adjacent to communities in Lower Manhattan and the Lower East Side.

Mitigation for traffic diversions. To address potential Project-related traffic diversions, related air pollutants, and associated health effects, the Project Sponsors commit to a package of regional and place-based mitigation for communities which may experience Project-related increases in traffic.³¹ The specific census tracts that would experience changes in traffic vary slightly by tolling scenario, but the communities largely remain the same across tolling scenarios.³²

With respect to potential increases in truck traffic, those communities that already experience either pre-existing pollutant or chronic disease burdens at or above the 90th percentile, compared to the nation, would benefit from regional mitigation measures. Communities that already experience both pre-existing pollutant and chronic disease burdens above the 90th percentile, compared to the nation, would benefit from the regional measures as well as place-based mitigation (Figure ES-5).

For non-truck traffic, mitigation was identified for the FDR Drive adjacent to the Lower East Side and Lower Manhattan. Modeling indicated that the increase in this area could be mitigated by ensuring that vehicles traveling to Manhattan on the Brooklyn Bridge that drive north on the FDR Drive and use the exit at East Houston Street to immediately turn left and head back south on the FDR Drive, would be tolled, thus discouraging diversions of non-truck traffic. This mitigation will be implemented as part of the package of place-based mitigation measures.

The regional and place-based mitigation measures are summarized in Table ES-4. To fund these mitigation measures the Project Sponsors have committed \$155 million over 5 years. The Project Sponsors commit to these measures, regardless of the tolling structure eventually adopted. An adaptive management approach will be used which will include monitoring the efficacy of mitigation, stakeholder consultation, and adjustments as warranted. Importantly, with these mitigation commitments incorporated, the Project would not result in a disproportionately high and adverse effect on environmental justice communities.

The map displays the New York City Metropolitan Area, including parts of New Jersey and New York. Key features include:

- Counties:** Bergen, Westchester, New York, Bronx, Essex, Hudson, Union, Middlesex, Richmond, Kings, Queens, and Nassau.
- Highways:** I-95, I-87, I-287, I-19, I-78, I-495, and I-66.
- Extension Route:** Indicated by orange lines and numbered points 1 through 11, showing a path from the existing Thruway in New Jersey, through the Hudson River, and into the Bronx and New York City.
- Labels:** "New Jersey", "New York", "Manhattan Central Business District (CBD)", and "New York State Thruway Extension".
- North Arrow:** Located in the top left corner.



- 1 High Bridge-Morrisania and Crotona-Tremont
- 2 Hunts Point-Mott Haven and Pelham-Throgs Neck
- 3 Hunts Point-Mott Haven
- 4 Pelham-Throgs Neck
- 5 Northeast Bronx
- 6 East Harlem
- 7 Randall's Island
- 8 Downtown Brooklyn-Fort Greene
- 9 South Williamsburg
- 10 Orange-East Orange-Newark
- 11 Fort Lee

Note: Percentiles are national. Census Tract 3009, Nassau County not shown. Potential truck volume increases and decreases on roadways within the tract would ultimately cancel each other out and result in no change of truck traffic proximity for the residential populations within the tract.

[Table ES-4. Regional and Place-Based Mitigation Measures]¹

MITIGATION MEASURES	BENEFIT AND RESULT OF MITIGATION	5-YEAR FUND-ING	RELEVANT LOCATION(S)	FUNDING SOURCE	IMPLEMEN-TATION LEAD
Regional Mitigation					
Further reduced overnight toll	Minimize/avoid truck diversions	\$30 million	10-county environmental justice study area	CBD Tolling Program	TBTA
Expand NYC Clean Trucks Program	NOx and PM2.5 reductions from ~500 new clean trucks	\$20 million		CBD Tolling Program	NYCDOT
Expand NYCDOT Off-Hours Delivery Program	Safety and emissions reduction benefits resulting from reduced truck traffic during the day	\$5 million		CBD Tolling Program	NYCDOT
Place-Based Mitigation					
Toll vehicles traveling northbound on the FDR Drive that exit at East Houston Street and then travel southbound on FDR Drive	25 to 35 percent of the non-truck traffic increases on the FDR Drive could be mitigated	N/A	FDR Drive between the Brooklyn Bridge and East Houston Street	N/A	TBTA
Replacement of Transport Refrigeration Units (TRUs) at Hunts Point Produce Market	Major NOx and PM2.5 reductions from the replacement of up to 1,000 TRUs	\$15 million ²	Hunts Point	MTA CMAQ Program	NYCDOT
Implement Electric Truck Charging Infrastructure	NOx and PM2.5 reductions from electric vehicles using 35 new chargers (at seven stations)	\$20 million	After toll rates are set, a process that includes both additional analyses and community input will take place to determine specific locations	\$10 million Federal CRP + \$10 million CBD Tolling Program	NYSDOT
Install Roadside Vegetation to Improve Near-Road Air Quality	Improves near-road air quality by pollutant capture from ~4,000 trees and ~40,000 shrubs	\$10 million		CBD Tolling Program	TBTA with Relevant State and Local Agencies
Renovate Parks and Greenspace in Environmental Justice Communities	Increases overall community well-being. 2-5 park/greenspace renovations depending on size and complexity.	\$25 million		CBD Tolling Program	TBTA with Relevant State and Local Agencies
Install Air Filtration Units in Schools Near Highways	Removes air pollutants from classrooms. 25-40 schools depending on school size and complexity of existing HVAC system.	\$10 million		CBD Tolling Program	TBTA with Relevant State and Local Agencies
Establish Asthma Case Management Program and Bronx Center	Reduces hospitalizations and doctor visits, decreases days and nights with symptoms and missed school days – program expansion up to 25 schools	\$20 million		CBD Tolling Program	NYC DOHMH

¹ An additional \$5 million has been allocated for mitigation and enhancement measures related to monitoring across other topics, along with \$47.5 million for the low-income toll discount discussed above. Enhancement measures include air quality monitoring that will expand NYC's existing monitoring network. Locations will be selected in consideration of the traffic and air quality analyses in the EA and in coordination with environmental justice stakeholders and relevant state and local agencies. This will complement the regional and place-based mitigation measures related to traffic diversions outlined in Table ES-5 (see Chapter 10, "Air Quality," for details).

² After three years, any remaining funds designated for TRU replacements may also be used for clean truck replacement vouchers through the NYC Clean Trucks Program.

Process for final siting of mitigation measures. Of the seven place-based mitigation measures identified, five are flexible in where they can be implemented, while the tolling of movements into the Manhattan CBD at East Houston Street and the replacement of transport refrigeration units (TRUs) at Hunts Point Produce Market are specific to those particular locations.

After the actual toll rates are adopted, a process that includes both additional analyses and community input will take place to determine the sites of the other five place-based mitigation measures (e.g., in which schools to install air filtration units, or on what roadways to plant vegetation). This will require coordination between the Project Sponsors, the Environmental Justice Community Group (representing the 10-county environmental justice study area, and as described further in Table ES-6), the relevant communities receiving the place-based mitigation, and local implementing agencies, and will include needs assessments and feasibility screening to determine the range of possibilities.

The Project Sponsors will work with the appropriate implementing agencies through existing public engagement and participation processes to then prioritize and select the specific locations. The specific place-based mitigation sites will be made available to the public through the Project website, as well as direct emails to members of the public who have signed up to receive information about the Project.

The specific feasibility factors and forms of engagement vary by mitigation and include:

- **Electric Truck Charging Infrastructure:** This mitigation will be implemented through the Federal Carbon Reduction Program (CRP) using funds received by NYSDOT and will therefore be limited to locations in New York. Siting considerations will include potential visual impacts, proximity to highways (to minimize travel on local roads), and the study of potential traffic and noise impacts. The NYMTC Clean Freight Corridors Study – a study developed by the metropolitan planning organization in consultation with motor carriers, utility companies, fuel infrastructure manufacturers/suppliers, truck stop operators, industrial real estate companies, and community and advocacy organizations – will be used to help identify priority locations. Such groups will be re-engaged, as warranted, along with state and local officials, to provide feedback in the course of identifying appropriate locations.
- **Roadside Vegetation to Improve Near-Road Air Quality:** The Project Sponsors will work with relevant local and state agencies to assess the availability of roadside space and the presence of existing plantings, as well as access and maintenance considerations, to identify appropriate sites near sensitive receptors (e.g., schools, day care, senior or community centers, or outdoor recreational facilities) as locations for new plantings. To align with community priorities, the Project Sponsors will engage with community stakeholders, elected officials, and the Environmental Justice Community Group.
- **Parks and Greenspace in Environmental Justice Communities:** The Project Sponsors will work with relevant state and local agencies to assess potential locations for park and greenspace investments in the affected communities, including in existing parkland where the expansion of green space, tree planting, or other upgrades is feasible. The agencies will solicit input on prioritization of locations and treatments from the Environmental Justice Community Group, local officials, and other community stakeholders.
- **Air Filtration Units in Schools Near Highways:** The Project Sponsors will work with relevant school authorities to assess needs and analyze feasibility of upgrading existing filtration systems in schools in census tracts within 300 meters of highways where truck traffic is projected to increase. Factors will include the design and

performance of existing HVAC systems, the facility's proximity to highways, and the area asthma rates, as well as scheduled capital projects. The Project Sponsors will work with relevant state and local agencies and solicit input from community stakeholders to determine locations where air filtration upgrades will be most impactful.

- **Asthma Case Management Program and Center:** This mitigation will expand on the success of existing city programs operating within the five New York City counties.
 - ❖ **Asthma Case Management Program** – NYC Department of Health and Mental Hygiene (DOHMH) will conduct a needs assessment to identify schools in affected census tracts with existing high rates of asthma. Additionally, NYC DOHMH will engage with school leadership on expansion of the Asthma Care Management Program and will solicit input from the Environmental Justice Community Group, parents, and other community stakeholders on priority locations that should be prioritized and how to best reach families of children with asthma.
 - ❖ **Asthma Center** – Selection of a location in the Bronx will include consideration of asthma rates, population concentration, proximity to sensitive receptors, the location of existing facilities and services, accessibility via public transportation, and availability of suitable space. NYC DOHMH will work with community stakeholders to solicit input on programming and outreach strategies to ensure that the center maximizes its benefit to people with asthma.

Will the mitigation measures change the results of the EA?

The short answer is no, the mitigation measures neither require a change in the tolling scenarios used for the analyses in the EA, nor change the fundamental conclusions of the EA. In the Final EA, the Project Sponsors commit to a number of mitigation measures that affect the tolling structure and/or the cost of the CBD Tolling Program. These include: 1) a further reduced overnight toll for trucks and other vehicles; 2) tolls of no more than once per day for taxis and FHV's; 3) mitigation measures to address potential increased traffic volumes in certain environmental justice communities as a result of Project-related traffic diversions; and 4) a discounted toll rate for frequent low-income drivers for the first five years of the Project.

While some of the tolling scenarios analyzed in the EA reflect this treatment of taxis and FHV's (Tolling Scenarios B, F, and modified scenarios A, D, and G), none include the further reduced overnight toll or the low-income discounted toll rate. Thus, additional analysis was conducted to ensure that with these mitigation measures included, the potential Project effects would still fall within the range of effects modeled for the EA.

To analyze the other mitigation measures' effects, a tolling scenario was developed using modified Scenario B1 as the basis (a version of Scenario B that meets the revenue target, as described in Appendix 2E, page 2E-2; and Appendix 4A, page 4A.2-1). This tolling scenario includes a cap on tolls for taxis and FHV's of once per day and an entirely free period from 12:00 a.m. to 6:00 a.m. for all vehicles, including trucks. For this analysis, the time range and toll rate reduction for the further reduced overnight mitigation were expanded beyond the commitments in the Final EA (tolls that are at or below 50 percent of the peak toll rate from at least 12:00 a.m. to 4:00 a.m.) to capture any differences in effects from the tolling scenarios used in the EA. This modified scenario – referred to as B2 in the following text – demonstrates that the mitigation measures described in the Final EA could be incorporated into the CBD Tolling Program, with the potential effects still falling within the range of effects explored through the current tolling scenarios. Specifically:

1. **VMT and volume reduction objectives of the Project.** Tolling Scenario B2 results in a VMT reduction of 8.4 percent and a 17 percent reduction in vehicles entering the

Manhattan CBD. These are within the range of effects already modeled in the EA (described in Tables 4A-7 and 4A-5).

2. **Toll rate.** Tolling Scenario B2 requires a peak E-ZPass toll rate of \$13.20, which remains within the range of tolling scenarios in the EA (see Table 2-3).
3. **Revenue target.** B2 meets the revenue target, generating \$1.07 billion, which is sufficient to cover the cost of the new mitigation measures the Project Sponsors have committed to in the Final EA (including the discounted toll rate for low-income frequent drivers) and, again, does not exceed the range of tolling scenarios in the EA.

Importantly, since it would result in effects within the range of effects identified above, Tolling Scenario B2 would not have effects on traffic diversions (highways and intersections), or on related air quality, or on environmental justice populations, beyond those already described in the EA.

4. **Traffic diversions in environmental justice communities.** Of the tolling scenarios evaluated in the EA for traffic diversions near environmental justice populations, Tolling Scenario B had the highest increase in trucks on the Cross Bronx Expressway at Macombs Road (see Chapter 10, “Air Quality,” Section 10.3.2.3). Tolling Scenario B2 would have fewer trucks on this segment compared to Scenario B and would have truck volume increases within the range identified at the other two locations where highway link analysis was performed in the EA (I-95 west of the George Washington Bridge, and at the Robert F. Kennedy Bridge Queens approach).

The Project Sponsors further concluded that traffic effects from the discounted toll rate for low-income drivers would fall within the range of effects explored through the tolling scenarios in the EA, given the small number of low-income frequent drivers who have no reasonable alternative, relative to the total number of drivers.

As noted, Tolling Scenario B2 included an entirely free period from 12:00 a.m. to 6:00 a.m., which is a lower toll rate and a longer overnight period than required by the legislation or committed to in the Final EA. Additionally, Tolling Scenario B2 included two other elements that are not required by the legislation and are not part of mitigation commitments in the Final EA – a cap on tolls for trucks at twice per day and an exemption for all buses. This further demonstrates that the mitigation commitments in the Final EA would not result in effects beyond those already described. Most importantly, the additional analysis demonstrates that these changes to the tolling scenarios do not change the fundamental conclusions of the EA.]

How has the public been involved?

The Project Sponsors implemented a robust public and agency outreach plan to solicit input from residents, businesses, Federal/regional/state/local agencies, across the 28-county study area. Information about the Project and the process was conveyed via the Project website, a Project Fact Sheet, social media, direct email, and multiple print media outlets. During the early outreach period, 10 virtual public outreach and 9 environmental justice webinar sessions were held, for a total of 19 sessions. Real-time answers were provided to those who submitted written factual, technical and logistical questions related to the Project and process. The webinars, which remain available for viewing, were streamed live on YouTube, and recordings were subsequently posted on YouTube for on-demand viewing. As of February 2022, there were over 14,000 views of these recordings, combined. Meeting attendees were asked to fill out an optional survey; of the 309 responses received, roughly one-third identified themselves as minority.

[The EA was released to the public on August 10, 2022, initiating a 30-day formal public comment period, which was subsequently extended by 14 days to September 23, 2022, in response to requests. During the 44-day comment window, more than 14,000 individual submissions and more than 55,000 form letters were received. Many submissions had multiple comments, resulting in over 22,000 individual comments collected by the Project Sponsors and FHWA through a combination of email, traditional mail, voicemail, fax, and an online form, as well as through oral testimony provided at six virtual hearings on the EA. During the virtual hearings, 552 speakers offered oral testimony and many more participated during the livestream or watched later via the Project website or YouTube (over 11,200 views as of December 2022).]

To encourage meaningful engagement with environmental justice populations, FHWA and the Project Sponsors provided smaller meetings in the form of a technical advisory group and a stakeholder working group.

Environmental Justice Technical Advisory Group.

FHWA and the Project Sponsors invited community leaders and advocacy group representatives with knowledge of and experience with environmental justice populations to participate. Thirty-seven groups were invited, of which 16 groups accepted, and 14 groups have participated in one or more of the meetings to date. The Environmental Justice Technical Advisory Group met three times prior to the publication of this EA and ***[subsequently, four times through January 2023]***.

Environmental Justice Stakeholder Working Group.

During the early outreach, individuals from populations throughout the study area were able to request participation or suggest others as participants in this group by using a form on the Project website or by contacting the Project Sponsors. All twenty-seven people who were nominated or expressed interested in participating were invited to join the Working Group, and 22 individuals attended one or both meetings. This group met twice prior to the publication of this EA and again during the EA comment period.

In both groups, the agendas were largely driven by the participants while the Project Sponsors listened and provided answers to questions. The discussions during these sessions, along with the comments heard during the public outreach and environmental justice webinars, led the Project Sponsors to undertake additional analyses and develop additional mitigation measures ***[as described earlier]***.

Environmental Justice Outreach Response

As an independent action, MTA is currently transitioning its fleet to zero-emission buses. MTA is committed to prioritizing traditionally underserved communities and those impacted by poor air quality and climate change and has developed a new Environmental Justice Scoring framework to actively incorporate these priorities in the deployment phasing process of the transition.

*Based on feedback received during the outreach conducted for the CBD Tolling Program and concerns raised by members of environmental justice communities, MTA is committed to prioritizing the Kingsbridge Depot and Gun Hill Depot, both located in and serving primarily environmental justice communities in Upper Manhattan and the Bronx, when electric buses are received in MTA's next major procurement of battery electric buses, which ***[began]*** in ***[late]*** 2022. This independent effort by MTA is anticipated to provide air quality benefits to the environmental justice communities in the Bronx.*

Table ES-5. Summary of Benefits and Effects for the CBD Tolling Alternative with Comparison of Tolling Scenarios

EA CHAPTER / ENVIRONMENTAL CATEGORY	TOPIC	SUMMARY OF EFFECTS	LOCATION	DATA SHOWN IN TABLE	TOLLING SCENARIO							POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS
					A	B	C	D	E	F	G		
4A – Transportation: Regional Transportation Effects and Modeling	Vehicle Volumes	Decreases in daily vehicle trips to Manhattan CBD overall. Some diversions to different crossings to Manhattan CBD or around the Manhattan CBD altogether, depending on tolling scenario. As traffic, including truck trips, increase on some circumferential highways, simultaneously there is a reduction in traffic on other highway segments to the CBD. Diversions would increase or decrease traffic volumes at local intersections near the Manhattan CBD crossings. Overall decrease in vehicle-miles traveled (VMT) in the Manhattan CBD and region overall in all tolling scenarios and some shift from vehicle to transit mode.	Crossing locations to Manhattan CBD	% Increase or decrease in daily vehicles entering the Manhattan CBD relative to No Action Alternative	-15%	-16%	-17%	-19%	-20%	-18%	-17%	No	No mitigation needed. Beneficial effects
	Auto Journeys to Manhattan CBD		Manhattan CBD	% Increase or decrease in worker auto journeys to Manhattan CBD relative to No Action Alternative	-5%	-5%	-7%	-9%	-11%	-10%	-6%	No	No mitigation needed. Beneficial effects
				Absolute increase or decrease in daily worker auto trips to Manhattan CBD relative to No Action Alternative	-12,571	-12,883	-17,408	-24,017	-27,471	-24,433	-14,578		
	Truck Trips Through Manhattan CBD		Manhattan CBD	Increase or decrease in daily truck trips through Manhattan CBD (without origin or destination in the CBD) relative to No Action Alternative	-4,645 (-55%)	[-4,967] (-59%)	-5,253 (-63%)	-5,687 (-68%)	-6,604 (-79%)	-6,784 (-81%)	[-1,734] (-21%)	No	No mitigation needed. Beneficial effects
	Transit Journeys		Manhattan CBD	% Increase or decrease in daily Manhattan CBD-related transit journeys relative to No Action Alternative	+1 to +3%						No	No mitigation needed. No adverse effects	
	Traffic Results		Manhattan CBD	% Increase or decrease in daily VMT relative to No Action Alternative	-9% to -7%						No	No mitigation needed. Beneficial effects in Manhattan CBD, New York City (non-CBD), north of New York City, and Connecticut; although there would be VMT increases in Long Island and New Jersey, the effects would not be adverse.	
			NYC (non-Manhattan CBD)		-1 to 0%								
			New York north of NYC		-1% to 0%								
			Long Island		Less than (+) 0.2% change								
			New Jersey		Less than (+) 0.2% change								
Connecticut		Less than (+) 0.2% change											

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EACH CHAPTER / ENVIRONMENTAL CATEGORY	TOPIC	SUMMARY OF EFFECTS ¹	LOCATION	DATA SHOWN IN TABLE	TOLLING SCENARIO							POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS
					A	B	C	D	E	F	G		
4B – Transportation: Highways and Local Intersections	Traffic – Highway Segments	The introduction of the CBD Tolling Program may produce increased congestion on highway segments approaching on circumferential roadways used to avoid Manhattan CBD tolls, resulting in increased delays and queues in midday and PM peak hours on certain segments in some tolling scenarios: <ul style="list-style-type: none">Westbound Long Island Expressway (I-495) near the Queens-Midtown Tunnel (midday)Approaches to westbound George Washington Bridge on I-95 (midday)Southbound and northbound FDR Drive between East 10th Street and Brooklyn Bridge (PM)Other locations will see an associated decrease in congestion particularly on routes approaching the Manhattan CBD	10 highway segments (AM)	Highway segments with increased delays and queues in peak hours that would result in adverse effects	0 out of 10 highway corridors in the analyzed tolling scenario (Tolling Scenario D)							Yes	Mitigation needed. The Project Sponsors will implement a monitoring plan prior to implementation with post-implementation data collected approximately three months after the start of [tolling] operations and including thresholds for effects; if the thresholds are reached or crossed, the Project Sponsors will implement Transportation Demand Management (TDM) measures, such as ramp metering, motorist information, signage at all identified highway locations with adverse effects upon implementation of the Project. <i>[NYSDOT owns and maintains the relevant segments of the Long Island Expressway and I-95. The relevant segment of the FDR Drive is owned by NYSDOT south of Montgomery Street and NYCDOT north of Montgomery Street. Implementation of TDM measures will be coordinated between the highway owners and the owners of any assets relevant to implementing the TDM.]</i> Post-implementation <i>[of TDM measures]</i> , the Project Sponsors will monitor effects and, if needed, TBTA will modify the toll rates, crossing credits, exemptions, and/or discounts <i>[within the parameters of the adopted toll schedule]</i> to reduce adverse effects.
			10 highway segments (midday)		2 out of 10 highway corridors in the analyzed tolling scenario (Tolling Scenario D), as well as Tolling Scenarios E and F								
			10 highway segments (PM)		1 out of 10 highway corridors in the analyzed tolling scenario (Tolling Scenario D), as well as Tolling Scenarios E and F								
	Intersections	Shifts in traffic patterns, with increases in traffic at some locations and decreases at other locations, would change conditions at some local intersections within and near the Manhattan CBD. Of the 102 intersections analyzed, most intersections would see reductions in delay. Potential adverse effects on four local intersections in Manhattan: Trinity Place and Edgar Street (midday); East 36th Street and Second Avenue (midday); East 37th Street and Third Avenue (midday); East 125th Street and Second Avenue (AM, PM)	363 locations (All day)	Number of instances of intersections with an increase in volumes of 50 or more vehicles in the peak hours.	9	10	24	50	48	50	10	Yes	Mitigation needed. <i>[NYCDOT]</i> will monitor those intersections where <i>[potential]</i> adverse effects were identified and implement appropriate signal timing adjustments to mitigate the effect, per NYCDOT's normal practice. Enhancement Refer to the overall enhancement on monitoring at the end of this table.
			102 locations (AM)		2	2	3	3	3	3	2		
			102 locations (midday)		1	2	4	16	16	17	0		
			102 locations (PM)		1	1	1	10	9	9	1		
			57 locations (overnight)		Locations with potential adverse effects that <i>[will]</i> be addressed with signal timing adjustments	5	5	16	21	20	21		
			4 locations	0		0	0	4	4	4	0		

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4C – Transportation: Transit	Transit Systems	The Project would generate a dedicated revenue source for investment in the transit system. Transit ridership would increase by 1 to 2 percent systemwide for travel to and from the Manhattan CBD, because some people would shift to transit rather than driving. Increases in transit ridership would not result in adverse effects on line-haul capacity on any transit routes.	New York City Transit	% Increase or decrease in total daily transit ridership systemwide				1.5% to 2.1%				No	No mitigation needed. No adverse effects
			PATH					0.8% to 2.0%					
			Long Island Rail Road					0.6% to 2.0%					
			Metro-North Railroad					0.6% to 1.9%					
			NJ TRANSIT commuter rail					0.3% to 2.3%					
			MTA/NYCT Buses					1.3% to 1.6%					
			NJ TRANSIT Bus					0.5% to 1.1%					
			Other buses (suburban and private operators)					0.0% to 0.9%					
			Ferries (Staten Island Ferry, NYC Ferry, NY Waterway, Seastreak)					2.5% to 3.5%					
			Roosevelt Island Tram					1.7% to 4.1%					
	Bus System Effects	Decreases in traffic volumes within the Manhattan CBD and near the 60th Street boundary of the Manhattan CBD would reduce the roadway congestion that adversely affects bus operations, facilitating more reliable, faster bus trips.	Manhattan local buses	% Increase or decrease at maximum passenger load point				Increases of 0.5% to 1.2%				No	No mitigation needed. No adverse effects
			Bronx express buses					-1.6% to 2.2%					
			Queens local and express buses (via Ed Koch Queensboro Bridge)					2.0% to 2.8%					
			Queens express buses (via Queens-Midtown Tunnel)					-1.3% to 4.1%					
			Brooklyn local and express buses					1.3% to 2.6%					
			Staten Island express routes (via Brooklyn)					3.7% to 4.5%					
			Staten Island express routes (via NJ)					1.0% to 2.8%					
			NJ/West of Hudson buses (via Holland Tunnel)					-1.4% to 1.4%					
			NJ/West of Hudson buses (via Lincoln Tunnel)					0.4% to 1.5%					

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4C - Transportation: Transit (Cont'd)	Transit Elements	<p>Increased ridership would affect passenger flows with the potential for adverse effects at certain vertical circulation elements (i.e., stairs and escalators) in five transit stations:</p> <ul style="list-style-type: none"> Hoboken Terminal, Hoboken, NJ PATH station Times Sq-42 St/42 St-Port Authority Bus Terminal subway station in the Manhattan CBD (N, Q, R, W, and S; Nos. 1, 2, 3, and 7; and A, C, E lines) Flushing Main St subway station, Queens (No. 7 line) 14th Street-Union Square subway station in the Manhattan CBD (Nos. 4, 5, and 6; and L, N, Q, R, W lines) Court Square subway station, Queens (No. 7 and E, G, M lines) 	Hoboken Terminal-PATH station (NJ) Stair 01/02	Net passenger increases or at stair in the peak hour	45	72	122	164	240	205	139	Yes	Mitigation needed for Tolling Scenarios E and F. TBTA will coordinate with NJ TRANSIT and PANYNJ to monitor pedestrian volumes on Stair 01/02 one month prior to commencing tolling operations to establish a baseline, and two months after Project operations begin. If a comparison of Stair 01/02 passenger volumes before and after implementation shows an incremental change that is greater than or equal to 205, then TBTA will coordinate with NJ TRANSIT and PANYNJ to implement improved signage and wayfinding to divert some people from Stair 01/02, and supplemental personnel if needed.
			42 St-Times Square-subway station (Manhattan) Stair M16/M18 connecting mezzanine to uptown 1/2/3 lines subway platform	Relative increase or decrease in passenger volumes at station OVERALL as compared to Tolling Scenario E (not only at the affected stair or location) in the peak hour, peak period	63%	59%	68%	82%	100%	82%	56%	Yes	Mitigation needed. TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, TBTA will coordinate with MTA NYCT to remove the center handrail and standardize the riser, so that the stair meets code without the hand rail. The threshold will be set to allow for sufficient time to implement the mitigation so that the adverse effect does not occur.
			Flushing Main St subway station (Queens)-Escalator E456 connecting street to mezzanine level	Relative increase or decrease in passenger volumes at station OVERALL as compared to Tolling Scenario E (not only at the affected stair or location) in the peak hour, peak period	116%	91%	108%	116%	100%	133%	72%	Yes	Mitigation needed. TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, MTA NYCT will increase the speed from 100 feet per minute (fpm) to 120 fpm.
			Union Sq subway station (Manhattan)-Escalator E219 connecting the L subway line platform to the Nos. 4/5/6 line mezzanine	Relative increase or decrease in passenger volumes at station OVERALL as compared to Tolling Scenario E (not only at the affected stair or location) in the peak hour, peak period	63%	82%	87%	102%	100%	95%	61%	Yes	Mitigation needed. TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, MTA NYCT will increase the escalator speed from 100 fpm to 120 fpm.

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4C – Transportation: Transit (Cont'd)	Transit Elements (Cont'd)	Increased ridership would affect passenger flows with the potential for adverse effects at certain vertical circulation elements (i.e., stairs and escalators) in five transit stations (cont'd)	Court Sq subway station (Queens)–Stair P2/P4 to Manhattan-bound No. 7 line	Relative increase or decrease in passenger volumes at station OVERALL as compared to Tolling Scenario E (not only at the affected stair or location) in the peak hour, peak period	98%	90%	102%	104%	100%	117%	97%	Yes	Mitigation needed. TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, TBTA will coordinate with MTA NYCT to construct a new stair from the northern end of the No. 7 platform to the street. The threshold will be set to allow for sufficient time to implement the mitigation so that the adverse effect does not occur.
4D – Transportation: Parking	Parking Conditions	All tolling scenarios would result in a reduction in parking demand within the Manhattan CBD of a similar magnitude to the reduction in auto trips into the Manhattan CBD. With a shift from driving to transit, there would be increased parking demand at subway and commuter rail stations and park-and-ride facilities outside the Manhattan CBD.	Manhattan CBD	Narrative	Reduction in parking demand due to reduction in auto trips to CBD							No	No mitigation needed. Beneficial effects
			Transit facilities	Narrative	Small changes in parking demand at transit facilities, corresponding to increased commuter rail and subway ridership							No	No mitigation needed. No adverse effects
4E – Transportation: Pedestrians and Bicycles	Pedestrian Circulation	Increased pedestrian activity on sidewalks outside transit hubs because of increased transit use. At all but one location in the Manhattan CBD (Herald Square/Penn Station), the increase in transit riders would not generate enough new pedestrians to adversely affect pedestrian circulation in the station area. Outside the Manhattan CBD, transit usage at individual stations would not increase enough to adversely affect pedestrian conditions on nearby sidewalks, crosswalks, or corners.	Herald Square/Penn Station NY	Sidewalks, corners, and crosswalks with pedestrian volumes above threshold in AM / PM peak periods	Adverse effects on pedestrian circulation at one sidewalk segment and two crosswalks							Yes	Mitigation needed. [NYCDOT] will implement a monitoring plan at this location. The plan will include a baseline, specific timing, and a threshold for additional action. If that threshold is reached, [NYCDOT] will increase pedestrian space on sidewalks and crosswalks via physical widening and/or removing or relocating obstructions.
	Bicycles	Small increases in bicycle trips near transit hubs and as a travel mode	Manhattan CBD	Narrative	Small increases in bicycle trips near transit hubs with highest increases in pedestrian trip share							No	No mitigation needed. No adverse effects
			Outside Manhattan CBD	Narrative	Some shifts from automobile to bicycles							No	No mitigation needed. No adverse effects
	Safety	No adverse effects	Overall	Narrative	No substantial increases in pedestrian volumes or increased safety concerns, including at existing identified high-crash locations. Overall, with fewer vehicular trips entering and exiting the Manhattan CBD, the CBD Tolling Alternative could result in reduced traffic volumes at these locations. This would help to reduce vehicle-vehicle and vehicle-pedestrian conflicts, leading to an overall benefit to safety.							No	No mitigation needed. No adverse effects
5A – Social Conditions: Population	Benefits	Benefits in and near the Manhattan CBD	28-county study area	Narrative	Benefits in and near the Manhattan CBD related to travel-time savings, improved travel-time reliability, reduced vehicle operating costs, improved safety, reduced air pollutant emissions, and predictable funding source for transit improvements. This would positively affect community connections and access to employment, education, healthcare, and recreation for residents.							No	No mitigation needed. Beneficial effects
	Community Cohesion	Changes to travel patterns, including increased use of transit, resulting from new toll	28-county study area	Narrative	Changes to travel patterns, including increased use of transit, as a result of the Project would not adversely affect community cohesion or make it more difficult for people to connect with others in their community, given the extensive transit network connecting to the Manhattan CBD and the small change in trips predicted.							No	No mitigation needed. No adverse effects (see "Environmental Justice" below for mitigation related to increased costs for low-income drivers).

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5A - Social Conditions: Population (Cont'd)	Indirect Displacement	No notable changes in socioeconomic conditions or cost of living so as to induce potential involuntary displacement of residents.	Manhattan CBD	Narrative	The Project would not result in the potential for indirect (involuntary) residential displacement. It would not result in substantial changes to market conditions so as to lead to changes in housing prices, given that real estate values in the Manhattan CBD are already high and the many factors that affect each household's decisions about where to live. In addition, low-income residents of the CBD would not experience a notable increase in the cost of living as a result of the Project because of the lack of change in housing costs, the many housing units protected through New York's rent-control, rent-stabilization, and other similar programs, the tax credit available to CBD residents with incomes of up to \$60,000, and the conclusion that the cost of goods would not increase as a result of the Project (see "Economic Conditions" below).							No	No mitigation needed. No adverse effects
	Community Facilities and Services	Increased cost for community facilities and service providers in the Manhattan CBD, their employees who drive, and clientele who drive from outside the CBD.	Manhattan CBD	Narrative	The Project would increase costs for community service providers that operate vehicles into and out of the Manhattan CBD and for people who travel by vehicle to community facilities and services in the Manhattan CBD, as well as residents of the CBD and employees of community facilities who use vehicles to travel to community facilities outside the CBD. Given the wide range of travel options other than driving, the cost for users to drive to community facilities and services would not constitute an adverse effect on community facilities and services.							No	No mitigation needed. No adverse effects
	Effects on Vulnerable Social Groups	Benefits to vulnerable social groups from new funding for MTA Capital Program	28-county study area	Narrative	The Project would benefit certain vulnerable social groups, including elderly populations, persons with disabilities, transit-dependent populations, and non-driver populations by creating a funding source for the MTA 2020-2024 Capital Program (and subsequent capital programs and by reducing congestion in the Manhattan CBD). Elderly individuals would benefit from the travel-time and reliability improvements to bus service with the CBD Tolling Alternative, as bus passengers tend to be older than riders on other forms of transit, such as the subway and, as described above, bus passengers in the Manhattan CBD would benefit from travel-time savings due to the decrease in congestion. People over the age of 65 with a qualifying disability receive a reduced fare on MTA subways and buses, and elderly individuals with a qualifying disability can also receive MTA's paratransit service, including taxis and FHV's operating on behalf of MTA to transport paratransit users. Elderly people with disabilities and low-income individuals who drive to the Manhattan CBD would be entitled to the same mitigation and enhancements proposed for low-income and disabled populations, in general. Other elderly individuals who drive to the Manhattan CBD would pay the toll.							No	No mitigation needed. No adverse effects
	Access to Employment	Increased cost for small number of people who drive to work	28-county study area	Narrative	Decrease in work trips by driving modes to and within the Manhattan CBD, with an offsetting increase in transit ridership. Those who drive despite the CBD toll would do so based on the need or convenience of driving and would benefit from the reduced congestion in the Manhattan CBD. Negligible effect (less than 0.1%) on travel to employment within the Manhattan CBD and reverse-commuting from the CBD due to the wide range of transit options available and the small number of commuters who drive today.							No	No mitigation needed. No adverse effects
5B - Social Conditions: Neighborhood Character	No notable change in neighborhood character		Manhattan CBD	Narrative	The changes in traffic patterns on local streets are unlikely to change the defining elements of the neighborhood character of the Manhattan CBD.							No	No mitigation needed. No adverse effects
			Area near 60th Street Manhattan CBD boundary	Narrative	Changes in parking demand near the 60th Street CBD boundary (including increases just north of 60th Street and decreases just to the south) would not create a climate of disinvestment that could lead to adverse effects on neighborhood character nor alter the defining elements of the neighborhood character of this area.							No	No mitigation needed. No adverse effects
5C - Social Conditions: Public Policy	No effect		28-county study area	Narrative	The Project would be consistent with regional transportation plans and other public policies in place for the regional study area and the Manhattan CBD.							No	No mitigation needed. No adverse effects

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6 – Economic Conditions	Benefits	Regional economic benefits	28-county study area	Narrative	Economic benefit through congestion relief in terms of travel-time savings and travel-time reliability improvements, which would increase productivity and utility, as well as safety improvements and reduced vehicle operating costs associated with reductions in congestion.							No	No mitigation needed. Beneficial effects	
	Economic Effects of Toll Costs	Cost of new toll for workers and businesses in the CBD that rely on vehicles	Manhattan CBD	Narrative	No adverse effects to any particular industry or occupational category in the Manhattan CBD. Given the high level of transit access in the CBD and high percentage of transit share, the toll would affect only a small percentage of the overall workforce. This would not adversely affect operations of businesses in the Manhattan CBD or the viability of any business types, including the taxi/FHV industry.							No	No mitigation needed. No adverse effects <i>[New in Final EA - Enhancements The Project Sponsors commit to establishing a Small Business Working Group (SBWG) that will meet 6 months prior and 6 months after Project implementation, and annually thereafter, to solicit ongoing input on whether and how businesses are being affected. As part of mitigation for other topics, TBTA will ensure the overnight toll for trucks and other vehicles is reduced to at or below 50 percent of the peak toll from at least 12:00 a.m. to 4:00 a.m. in the final CBD toll structure; this will also benefit some workers and businesses.]</i>	
	Price of Goods	Cost of new toll would not result in changes in the cost of most consumer goods	Manhattan CBD	Narrative	Unlikely to result in meaningful change in cost for most consumer goods. Any cost increase associated with the new toll in the CBD Tolling Alternative that would be passed along to receiving businesses would be distributed among several customers per toll charge (since trucks make multiple deliveries) especially for businesses, including small businesses and micro-businesses, receiving smaller deliveries. This would minimize the cost to any individual business. Some commodity sectors (construction materials, electronics, beverages) are more prone to increases due to less competition within delivery market.							No	No mitigation needed. No adverse effects	
	Taxi and FHV Industry	Depending on the tolling scenario, the toll could reduce taxi and FHV revenues due to a reduction in taxi/FHV VMT with passengers within the CBD. While this could adversely affect individual drivers (see "Environmental Justice" below), the industry would remain viable overall.	28-county study area	Net change in daily taxi/FHV VMT regionwide Net change in daily taxi/FHV VMT in the CBD	-126,993 (-2.9%) -14,028 (-0.3%) -73,413 (-1.7%) -217,477 (-5.0%) -116,065 (-2.7%) -4,888 (-1.0%) -137,815 (-3.2%) -21,498 (-6.6%) +15,020 (+4.6%) -11,371 (-3.5%) -54,476 (-16.8%) -25,621 (-7.9%) +4,962 (+1.5%) -27,757 (-8.6%)								No	No mitigation needed. No adverse effects (see "Environmental Justice" below for mitigation related to effects on taxi and FHV drivers).
	Local Economic Effects	Changes in parking demand near the 60th Street CBD boundary	Area near 60th Street Manhattan CBD boundary	Narrative	Changes in parking demand near the 60th Street Manhattan CBD boundary (including increases just north of 60th Street and decreases just to the south) could jeopardize the viability of one or more parking facilities in the area south of 60th Street but would not create a climate of disinvestment that could lead to adverse effects on neighborhood character.							No	No mitigation needed. No adverse effects	
7 – Parks and Recreational Resources		New tolling infrastructure, tolling system equipment, and signage in the southern portion of Central Park	Manhattan CBD	Narrative	The Project would replace four existing streetlight poles at three detection locations in Central Park near 59th Street and on two adjacent sidewalks outside the park's wall. These poles would be in the same locations as existing poles and would not reduce the amount of park space or affect the features and activities of the park. The Project would also place tolling infrastructure beneath the structure of the High Line, outside the park area atop the High Line structure. FHWA through the public involvement process is soliciting public input related to the Project's effects on these parks (see Chapter 19, "Section 4(f) Evaluation").							No	No mitigation needed. Refer to Chapter 7, "Parks and Recreational Resources," for a listing of measures to avoid adverse effects to parks.	
8 – Historic and Cultural Resources		New tolling infrastructure and tolling system equipment on or near historic properties	45 historic properties within the Project's Area of Potential Effects (APE)	Narrative	Based on a review of the Project in accordance with Section 106 of the National Historic Preservation Act, FHWA has determined that the Project would have No Adverse Effect on historic properties and the State Historic Preservation Office has concurred.							No	No mitigation needed. Refer to Chapter 8, "Historic and Cultural Resources," for a listing of measures to avoid adverse effects to historic properties.	

Visual Resources Assessment: EIS for the Second Avenue Subway Extension, Phase 1, from 125th Street to 137th Street

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9 – Visual Resources		Changes in visual environment resulting from new tolling infrastructure and tolling system equipment	Area of visual effect	Narrative	Infrastructure and equipment would be similar in form to streetlight poles, sign poles, or similar structures already in use throughout New York City. Cameras included in the array of tolling system equipment would use infrared illumination at night to allow images of license plates to be collected without any need for visible light. The Project would have a neutral effect on viewer groups and no adverse effect on visual resources							No	No mitigation needed. No adverse effects
10 – Air Quality	Increases or decreases in emissions related to truck traffic diversions ...Continued below...		Cross Bronx Expressway at Macombs Road, Bronx, NY	Increase or decrease in Annual Average Daily [Traffic] (AADT)	3,901	3,996	2,056	1,766	3,757	2,188	3,255	No	<p>No mitigation needed. No adverse effects</p> <p>Enhancements:</p> <p>1. Refer to the overall enhancement on monitoring at the end of this table.</p> <p>2. [TBA will work with NYC DOHMH] to expand the existing network of sensors to monitor priority locations and supplement a smaller number of real-time PM_{2.5} monitors to provide insight into time-of-day patterns to determine whether the changes in air pollution can be attributed to changes in traffic occurring after implementation of the Project. [The Project Sponsors will select the additional monitoring locations in consideration of air quality analysis in the EA and input from environmental justice stakeholders. NYS Department of Environmental Conservation (NYSDCE) and other agencies conducting monitoring will also be consulted prior to finalizing the monitoring approach.] The Project Sponsors will monitor air quality prior to implementation (setting a baseline), and two years following implementation. Following the initial two-year post-implementation analysis period, [and separate from ongoing air quality monitoring and reporting] the Project Sponsors will assess the magnitude and variability of changes in air quality to determine whether more monitoring [sites are] necessary. [Data collected throughout the monitoring program will be made available publicly as data becomes available and analysis is completed. Data from the real-time monitors will be available online continuously from the start of pre-implementation monitoring.]</p> <p>3. MTA is currently transitioning its fleet to zero-emission buses, which will reduce air pollutants and improve air quality near bus depots and along bus routes. MTA is committed to prioritizing traditionally underserved communities and those impacted by poor air quality and climate change and has developed an approach that actively incorporates these priorities in the deployment phasing process of the transition. ...Continued below...</p>
				Increase or decrease in daily number of trucks	509	704	170	510	378	536	50		
				Potential adverse air quality effects from truck diversions	No	No	No	No	No	No	No		
			I-95, Bergen County, NJ	Increase or decrease in AADT	9,843	11,459	7,980	5,003	7,078	5,842	12,506	No	
				Increase or decrease in daily number of trucks	801	955	729	631	696	637	-236		
				Potential adverse air quality effects from truck diversions	No	No	No	No	No	No	No		
			RFK Bridge, NY	Increase or decrease in AADT	18,742	19,440	19,860	19,932	20,465	20,391	21,006	No	
				Increase or decrease in daily number of trucks	2,257	2,423	2,820	3,479	4,116	3,045	432		

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10 - Air Quality (Cont'd)		Increases or decreases in emissions related to truck traffic diversions (Cont'd)	RFK Bridge, NY (Cont'd)	Potential adverse air quality effects from truck diversions	No	No	No	No	No	No	No	No	Based on feedback received during the outreach conducted for the Project and concerns raised by members of environmental justice communities, TBTA coordinated with MTA NYCT, which is committed to prioritizing the Kingsbridge Depot and Gun Hill Depot, both located in and serving primarily environmental justice communities in Upper Manhattan and the Bronx, when electric buses are received in MTA's next major procurement of battery electric buses, which [began] in [late] 2022. This independent effort by MTA NYCT is anticipated to provide air quality benefits to the environmental justice communities in the Bronx.
11 - Energy		Reductions in regional energy consumption	28-county study area	Narrative	Reductions in regional VMT would reduce energy consumption							No	No mitigation needed. Beneficial effects
12 - Noise		Imperceptible increases or decreases in noise levels resulting from changes in traffic volumes	Bridge and tunnel crossings	Narrative	The maximum noise level increases (2.9 dB(A)), which were predicted adjacent to the Queens-Midtown Tunnel in Tolling Scenario D, would not be perceptible.							No	No mitigation needed. No adverse effects
			Local streets	Narrative	Tolling Scenario C was used to assess noise level changes in Downtown Brooklyn. Tolling Scenario D was used at all other locations assessed. The maximum predicted noise level increases (2.5 dB(A)), which were at Trinity Place and Edgar Street, would not be perceptible. There was no predicted increase in noise levels in the Downtown Brooklyn locations.							No	Enhancement Refer to the overall enhancement on monitoring at the end of this table.
13 - Natural Resources		Construction activities to install tolling infrastructure near natural resources	Sites of tolling infrastructure and tolling system equipment	Narrative	No effects on surface waters, wetlands, or floodplains. Potential effects on stormwater and ecological resources will be managed through construction commitments. The Project is consistent with coastal zone policies.							No	Refer to Chapter 13, "Natural Resources," for a listing of construction commitments to avoid, minimize, or mitigate potential negative effects.
14 - Hazardous Waste		Potential for disturbance of existing contaminated or hazardous materials during construction	Sites of tolling infrastructure and tolling system equipment	Narrative	Soil disturbance during construction and the potential alteration, removal, or disturbance of existing roadway infrastructure and utilities that could contain asbestos-containing materials, lead-based paint, or other hazardous substances. Potential effects will be managed through construction commitments.							No	Refer to Chapter 14, "Asbestos-Containing Materials, Lead-Based Paint, Hazardous Wastes, and Contaminated Materials," for a listing of construction commitments to avoid, minimize, or mitigate potential negative effects.
15 - Construction Effects		Potential disruption related to construction for installation of tolling infrastructure	Sites of tolling infrastructure and tolling system equipment	Narrative	Temporary disruptions to traffic and pedestrian patterns, and noise from construction activities, with a duration of less than one year overall, and approximately two weeks at any given location. These effects will be managed through construction commitments.							No	Refer to Chapter 15, "Construction Effects," for a listing of construction commitments to avoid, minimize, or mitigate potential negative effects.

EA CHAPTER/ ENVIRONMENTAL CATEGORY	TOPIC	SUMMARY OF EFFECTS	LOCATION	DATA SHOWN IN TABLE	TOLLING SCENARIO							POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS
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17 – Environmental Justice	Low-income drivers	<i>[The EA as published in August 2022 found] the increased cost to drivers with the new CBD toll would disproportionately affect low-income drivers to the Manhattan CBD who do not have [a reasonable] alternative for reaching the Manhattan CBD. [With further analysis of the population affected and the addition of new mitigation, the Final EA concludes there would not be a disproportionately high and adverse effect on low-income drivers. ...Continued below...]</i>	28-county study area	Narrative	The increased cost to drivers would <i>[occur under]</i> all tolling scenarios.							Yes	<p>Mitigation needed. The Project will include a tax credit for CBD tolls paid by residents of the Manhattan CBD whose New York adjusted gross income for the taxable year is less than \$60,000. TBTA will coordinate with the New York State Department of Taxation and Finance (NYS DTF) to ensure availability of documentation needed for drivers eligible for the NYS tax credit.</p> <p>TBTA will post information related to the tax credit on the Project website, with a link to the appropriate location on the NYS DTF website to guide eligible drivers to information on claiming the credit.</p> <p>TBTA will eliminate the \$10 refundable deposit currently required for E-ZPass customers who do not have a credit card linked to their account, and which is sometimes a barrier to access.</p> <p>TBTA will provide enhanced promotion of existing E-ZPass payment and plan options, including the ability for drivers to pay per trip (rather than a pre-load[ed] balance), refill their accounts with cash at participating retail locations, and discount plans already in place, about which they may not be aware.</p> <p>TBTA will coordinate with MTA to provide outreach and education on eligibility for existing discounted transit fare products and programs, including those for individuals 65 years of age and older, those with disabilities, and those with low incomes, about which many may not be aware.</p> <p>The Project Sponsors commit to establishing an Environmental Justice Community Group that <i>[will]</i> meet on a <i>[quarterly]</i> basis, with the first meeting <i>[taking place prior to]</i> Project implementation, to share updated data and analysis and hear about potential concerns. <i>[As it relates to environmental justice, the Project Sponsors will continue providing meaningful opportunities for participation and engagement by sharing updated data and analysis, listening to concerns, and seeking feedback on the toll setting process.]</i> ...Continued below...</p>

EA CHAPTER/ ENVIRONMENTAL CATEGORY	TOPIC	SUMMARY OF EFFECTS	LOCATION	DATA SHOWN IN TABLE	TOLLING SCENARIO							POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS													
					A	B	C	D	E	F	G															
17 – Environmental Justice (Cont'd)	Low-income drivers (Cont'd)	<i>[The EA as published in August 2022 found] the increased cost to drivers with the new CBD toll would disproportionately affect low-income drivers to the Manhattan CBD who do not have [a reasonable] alternative for reaching the Manhattan CBD. [With further analysis of the population affected and the addition of new mitigation, the Final EA concludes there would not be a disproportionately high and adverse effect on low-income drivers. (Cont'd.)]</i>	28-county study area	Narrative	The increased cost to drivers with the new CBD toll would [occur under] all tolling scenarios (Cont'd).							Yes	<i>[New in Final EA –TBTA will ensure the overnight toll for trucks and other vehicles is reduced to at or below 50 percent of the peak toll from at least 12:00 a.m. to 4:00 a.m. in the final CBD toll structure; this will benefit low-income drivers who travel during that time.]</i> <i>New in the Final EA – For five years, TBTA commits to a Low-Income Discount Plan for low-income frequent drivers who will benefit from a 25 percent discount on the full CBD E-ZPass toll rate for the applicable time of day after the first 10 trips in each calendar month (not including the overnight period, which will already be deeply discounted).]</i> <i>Enhancement</i> <i>TBTA will coordinate with MTA NYCT to improve bus service in areas identified in the EA as the Brooklyn and Manhattan Bus Network Redesigns move forward.]</i>													
	Taxi and FHV drivers	<i>[The EA as published in August 2022 found a] potential disproportionately high and adverse effect would occur to taxi and FHV drivers in New York City, who largely identify as minority populations, in tolling scenarios that toll their vehicles more than once a day. This would occur in unmodified Tolling Scenarios A, D, and G; for FHV drivers, it would also occur in Tolling Scenarios C and E. The adverse effect would be related to the cost of the new CBD toll and the reduction of VMT for taxis and FHVs, which would result in a decrease in revenues that could lead to losses in employment. [With the addition of new mitigation, the Final EA concludes there would not be a disproportionately high and adverse effect on taxi and FHV drivers.]</i>	New York City	Narrative Change in daily taxi/FHV VMT with passengers in the CBD relative to No Action Alternative: Scenarios included in EA Net change in daily taxi/FHV trips to CBD relative to scenarios included in EA: Additional analysis to assess effects of caps or exemptions	Potential adverse effect would occur in Tolling Scenarios A, D, and G, which would not have caps or exemptions for taxis and FHV drivers. <table><tr><td>-21,498 (-6.6%)</td><td>+15,020 (+4.6%)</td><td>-11,371 (-3.5%)</td><td>-54,476 (-16.8%)</td><td>-25,621 (-7.9%)</td><td>+4,962 (+1.5%)</td><td>-27,757 (-8.6%)</td></tr><tr><td>Tolls capped at 1x / Day; +2%</td><td>—</td><td>—</td><td>Tolls capped at 1x / Day; +3%; Exempt: +50%</td><td>—</td><td>—</td><td>Tolls capped at 1x / Day; +2%</td></tr></table>							-21,498 (-6.6%)	+15,020 (+4.6%)	-11,371 (-3.5%)	-54,476 (-16.8%)	-25,621 (-7.9%)	+4,962 (+1.5%)	-27,757 (-8.6%)	Tolls capped at 1x / Day; +2%	—	—	Tolls capped at 1x / Day; +3%; Exempt: +50%	—	—	Tolls capped at 1x / Day; +2%	Yes
-21,498 (-6.6%)	+15,020 (+4.6%)	-11,371 (-3.5%)	-54,476 (-16.8%)	-25,621 (-7.9%)	+4,962 (+1.5%)	-27,757 (-8.6%)																				
Tolls capped at 1x / Day; +2%	—	—	Tolls capped at 1x / Day; +3%; Exempt: +50%	—	—	Tolls capped at 1x / Day; +2%																				

EA CHAPTER 7 ENVIRONMENTAL CATEGORY	TOPIC	SUMMARY OF EFFECTS	LOCATION	DATA SHOWN IN TABLE	TOLLING SCENARIO							POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS
					A	B	C	D	E	F	G		
[17 – Environmental Justice (Cont'd)]	Increases or decreases in traffic, as a result of traffic diversions, in communities already overburdened by pre-existing air pollution and chronic diseases	Certain environmental justice communities would benefit from decreased traffic; some communities that are already overburdened by pre-existing air pollution and chronic diseases could see an adverse effect as a result of increased traffic.	The specific census tracts that would experience increased or decreased traffic change slightly depending on the tolling scenario. The following communities could have census tracts that merit place-based mitigation: High Bridge, Morrisania and Crotona, Tremont, Hunts Point, Mott Haven, Pelham, Throgs Neck, Northeast Bronx, East Harlem, Randall's Island, Lower East Side/Lower Manhattan, Downtown Brooklyn, Fort Greene, South Williamsburg, Orange, East Orange, Newark, and Fort Lee. (See Note 1.)	Narrative	Census tracts with pre-existing air pollutant and chronic disease burdens that would benefit from reduced traffic, and those affected by increased traffic would vary somewhat, but the identified communities remain largely the same across tolling scenarios. Under Tolling Scenario G, Fort Lee would not experience increases.							Yes	<p>New in Final EA – Mitigation needed.</p> <p>Regional Mitigation</p> <p>TBTA will ensure the overnight toll for trucks and other vehicles is reduced to at or below 50 percent of the peak toll from at least 12:00 a.m. to 4:00 a.m. in the final toll structure; this will reduce truck diversions.</p> <p>NYCDOT will expand the NYC Clean Trucks Program to accelerate the replacement of eligible diesel trucks, which travel on highways in certain environmental justice communities where the Project is projected to increase truck traffic, to lower-emission electric, hybrid, compressed natural gas, and clean diesel vehicles.</p> <p>NYCDOT will expand its off-hours delivery program in locations where the Project is projected to increase truck diversions to reduce daytime truck traffic and increase roadway safety in certain environmental justice communities.</p> <p>Place-based Mitigation</p> <p>TBTA will toll vehicles traveling northbound on the FDR Drive that exit at East Houston Street and then turn to immediately travel south on FDR Drive; this will mitigate modeled non-truck traffic increases on the FDR Drive between the Brooklyn Bridge and East Houston Street.</p> <p>NYCDOT will coordinate to replace diesel-burning TRUs at Hunts Point with cleaner vehicles.</p> <p>NYSDOT will coordinate to expand electric truck charging infrastructure.</p> <p>The Project Sponsors will coordinate to install roadside vegetation to improve near-road air quality.</p> <p>The Project Sponsors will renovate parks and green spaces.</p> <p>The Project Sponsors will install or upgrade air filtration units in schools.</p> <p>The Project Sponsors will coordinate to expand existing asthma case management programs and create new community-based asthma programming through a neighborhood asthma center in the Bronx.]</p>

OVERALL PROJECT ENHANCEMENT. The Project Sponsors commit to ongoing monitoring and reporting of potential effects of the Project, including for example, traffic entering the CBD, vehicle-miles traveled in the CBD, transit ridership from providers across the region, bus speeds within the CBD, air quality and emissions trends, parking, and Project revenue. Data will be collected in advance and after implementation of the Project. A formal report on the effects of the Project will be issued one year after implementation and then every two years. In addition, a reporting website will make data, analysis, and visualizations available in open data format to the greatest extent [practicable]. Updates will be provided on at least a bi-annual basis as data becomes available and analysis is completed. [This data will also be used to support an adaptive management approach to monitoring the efficacy of mitigation, and adjustments as warranted.]

[Note:

1 The Project Sponsors have committed to a toll policy that will reduce the overnight toll rate from at least 12:00 a.m. to 4:00 a.m. Based on the modeling undertaken for the tolling scenarios analyzed in the EA, it is expected that this policy will avoid a substantial portion of projected truck diversions, as many of these diverted trucks were projected to occur during the overnight hours. Following the adoption of the CBD tolling structure by the TBTA Board, which will include this overnight exemption/discount, modeling of the adopted tolling structure will be undertaken to determine where truck diversions are expected to occur. After the communities and census tracts are confirmed through the analysis of the adopted toll schedule, specific siting of place-based mitigation measures will require further coordination between the Project Sponsors, the Environmental Justice Community Group (representing the 10-county environmental justice study area), the relevant communities receiving the place-based mitigation, and relevant local and state implementing agencies.]

[Table ES-6. Summary of the CBD Tolling Alternative Implementation Approach for Mitigation and Enhancement Measures]

EA CHAPTER - TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST-PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEPS WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
4B - Transportation: Highways and Local Intersections - Traffic-Highway Segments	Three highway segments: <ul style="list-style-type: none"> Westbound Long Island Expressway (I-495) near the Queens-Midtown Tunnel (midday) Approaches to westbound George Washington Bridge on I-95 (midday) Southbound and northbound FDR Drive between East 10th Street and Brooklyn Bridge (PM) 	<p>The Project Sponsors will implement a monitoring plan prior to implementation with post-implementation data collected approximately three months after the start of tolling operations and including thresholds for effects; if the thresholds are reached or crossed, the Project Sponsors will implement Transportation Demand Management (TDM) measures, such as ramp metering, motorist information, signage at all identified highway locations with adverse effects upon implementation of the Project. NYSDOT owns and maintains the relevant segments of the Long Island Expressway and I-95. The relevant segment of the FDR is owned by NYSDOT south of Montgomery Street and NYCDOT north of Montgomery Street. Implementation of TDM measures will be coordinated between the highway owners and the owners of any assets relevant to implementing the TDM.</p> <p>Post-implementation of TDM measures, the Project Sponsors will monitor effects and, if needed, TBTA will modify the toll rates, crossing credits, exemptions, and/or discounts within the parameters of the adopted toll schedule to reduce adverse effects.</p>	<p>Exact timing for data collection will be based on seasonality and other factors such as construction activity in accordance with NYCDOT's traffic count best practices. Modeling to quantify delay will be completed within 60 days of data collection.</p> <p>Baseline data will be collected within the six months prior to Project implementation. Post-implementation data will be collected approximately three months after the start of tolling operations.</p> <p>If TDM measures are implemented, additional data will be collected within six months after their implementation to determine whether they have addressed the adverse effect.</p>	<p>An increase in average weekday peak period delay of 2.5 minutes or more.</p> <p>The methods of data collection and evaluation will follow standard practices pursuant to guidelines of NYSDOT Highway Design Manual 5.2 and NYSDOT Data Services procedures.</p>	<p>The monitoring plan will be agreed to by the relevant lead and partnering agencies prior to a decision document being issued.</p> <p>TDM measures will be implemented over a period of two to eighteen months after confirming delays in excess of the threshold for next steps. More readily implementable measures (e.g., variable message signs) will be completed first. NYSDOT currently has two TDM projects progressing on the relevant segments of the LIE and the Cross Bronx (I-95) and TDM measures could be coordinated with these projects, as needed.</p> <p>Modifications to toll rates, crossing credits, exemptions, and/or discounts will be made after confirming delays in excess of the threshold for next steps persist following implementation of TDM measures, to allow for analysis of what the modifications should be and public outreach about any changes.</p>	<p>NYSDOT will lead in partnership with TBTA and NYCDOT.</p>
4B - Transportation: Highways and Local Intersections - Intersections	Four local intersections in Manhattan: <ul style="list-style-type: none"> Trinity Place and Edgar Street (midday) East 36th Street and Second Avenue (midday) East 37th Street and Third Avenue (midday) East 125th Street and Second Avenue (AM, PM) 	<p>NYCDOT will monitor those intersections where potential adverse effects were identified and implement appropriate signal timing adjustments to mitigate the effect, per NYCDOT's normal practice.</p>	<p>Exact timing for data collection will be based on seasonality and other factors such as construction activity in accordance with NYCDOT's traffic count best practices. Modeling to quantify delay will be completed within 60 days of data collection.</p> <p>Baseline data will be collected within the six months prior to Project implementation. Post-implementation data will be collected within the six months after Project implementation.</p>	<p>For intersections at LOS E or F pre-implementation, an increase in average intersection delay of greater than five seconds.</p> <p>For intersections at LOS D or better pre-implementation, an increase of intersection delay of greater than five seconds at LOS to E or F.</p>	<p>Signal timing adjustments will be made within 90 days of confirming delays in excess of the threshold for next steps.</p>	<p>NYCDOT will lead in partnership with TBTA.</p>

Table 4C-1: Potential Construction Impacts and Mitigation Measures for Transit Elements

EA CHAPTER TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST-PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEPS WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
4C – Transportation: Transit – Transit Elements	Hoboken Terminal–PATH station (NJ) Stair 01/02	TBTA will coordinate with NJ TRANSIT and PANYNJ to monitor pedestrian volumes on Stair 01/02 one month prior to commencing tolling operations to establish a baseline, and two months after Project operations begin. If a comparison of Stair 01/02 passenger volumes before and after Project implementation shows an incremental change that is greater than or equal to 205, then TBTA will coordinate with NJ TRANSIT and PANYNJ to implement improved signage and wayfinding to divert some people from Stair 01/02, and supplemental personnel if needed.	For stair passenger volumes, baseline data will be collected one month prior to commencing tolling operations to establish a baseline, and two months after Project operations begin. Station ridership data is collected and evaluated in an ongoing manner by NJ TRANSIT and PANYNJ.	For signage, if a comparison of Stair 01/02 peak-hour passenger volumes before and after Project implementation shows an incremental change that is greater than or equal to 205. For supplemental personnel, if the threshold for signage has been reached but signage has not yet been installed, and overall ridership at Hoboken Terminal is 90 percent of 2019 levels 30 days prior to commencing tolling operations.	The monitoring plan will be agreed to by TBTA, PANYNJ, and NJ TRANSIT prior to a decision document being issued and MOU will be drafted thereafter. The MOU will be executed within 120 days after toll rates are set. Signage design will commence after the MOU is executed. Signage fabrication and installation will begin immediately after observing passenger volumes in excess of the threshold for next steps. Supplemental personnel, if needed, will be stationed within 45 days after observing passenger volumes in excess of the threshold for next steps. Supplemental personnel will be used until signage is fabricated and installed.	TBTA will lead and coordinate with NJ TRANSIT and PANYNJ.
	42 St-Times Square subway station (Manhattan) Stair ML6/ML8 connecting mezzanine to uptown 1/2/3 lines subway platform	TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, TBTA will coordinate with MTA NYCT to remove the center handrail and standardize the riser, so that the stair meets code without the hand rail. The threshold will be set to allow for sufficient time to implement the mitigation so that the adverse effect does not occur.	Exact timing will be based on seasonality and other factors such as service changes and construction activity in the station. For stair passenger volumes, baseline data will be collected within the six months prior to Project implementation. Post-implementation data will be collected within the first year after Project implementation. Station ridership data is collected and evaluated in an ongoing manner by MTA NYCT based on turnstile entry and exit data throughout the system.	If a comparison of Stair ML6/ML8 peak hour weekday passenger volumes before and after Project implementation shows an incremental change that is greater than or equal to 92 passengers in the weekday peak hour, and overall ridership at 42 St-Times Square subway station is 90 percent of 2019 levels. The methods of data collection and evaluation will follow standard practices pursuant to guidelines of the CEQR Technical Manual and will be coordinated with NYCT.	Design and resource allocation will begin immediately after the passenger volume threshold is exceeded, and the hand rail will be removed prior to overall ridership at the station exceeding 90 percent of 2019 levels.	TBTA will lead in partnership MTA NYCT.
	Flushing-Main St subway station (Queens)–Escalator E456 connecting street to mezzanine level	TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, MTA NYCT will increase the speed from 100 feet per minute (fpm) to 120 fpm.	Exact timing will be based on seasonality and other factors such as service changes and construction activity in the station. For escalator passenger volumes, baseline data will be collected within the six months prior to Project implementation. Post-implementation data will be collected within the first year after Project implementation.	If a comparison of Escalator E456 peak hour weekday passenger volumes before and after Project implementation shows an incremental change that is greater than or equal to 26 passengers in the weekday peak hour, and overall ridership at Flushing-Main St subway station is 90 percent of 2019 levels. The methods of data collection and evaluation will follow standard practices pursuant to guidelines of the CEQR Technical Manual and will be coordinated with NYCT.	Prior to overall ridership at the station exceeding 90 percent of 2019 levels.	TBTA will lead in partnership MTA NYCT.

EA CHAPTER - TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIME LINE FOR PRE- AND POST-PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEPS WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
4C - Transportation: Transit - Transit Elements (Cont'd)	Union Sq subway station (Manhattan)-Escalator E219 connecting the L subway line platform to the Nos. 4/5/6 line mezzanine	TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, MTA NYCT will increase the escalator speed from 100 fpm to 120 fpm.	Exact timing will be based on seasonality and other factors such as service changes and construction activity in the station. For escalator passenger volumes, baseline data will be collected within the six months prior to Project implementation. Post-implementation data will be collected within the first year after Project implementation. Station ridership data is collected and evaluated in an ongoing manner by MTA NYCT based on turnstile entry and exit data throughout the system.	If a comparison of Escalator E219 peak hour weekday passenger volumes before and after Project implementation shows an incremental change that is greater than or equal to 21 passengers in the weekday peak hour, and overall ridership at Union Sq subway station is 90 percent of 2019 levels. The methods of data collection and evaluation will follow standard practices pursuant to guidelines of the CEQR Technical Manual and will be coordinated with NYCT.	Prior to overall ridership at the station exceeding 90 percent of 2019 levels.	TBTA will lead in partnership MTA NYCT.
	Court Sq subway station (Queens)-Stair P2/P4 to Manhattan-bound No. 7 line	TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, TBTA will coordinate with MTA NYCT to construct a new stair from the northern end of the No. 7 platform to the street. The threshold will be set to allow for sufficient time to implement the mitigation so that the adverse effect does not occur.	Exact timing will be based on seasonality and other factors such as service changes and construction activity in the station. For stair passenger volumes, baseline data will be collected within the six months prior to Project implementation. Post-implementation data will be collected within the first year after Project implementation. Station ridership data is collected and evaluated in an ongoing manner by MTA NYCT based on turnstile entry and exit data throughout the system.	If a comparison of Stair P2/P4 peak hour weekday passenger volumes before and after Project implementation shows an incremental change that is greater than or equal to 101 passengers in the weekday peak hour, and overall ridership at Court Sq subway station is 90 percent of 2019 levels, and if construction by an outside developer is not likely in the foreseeable future. The methods of data collection and evaluation will follow standard practices pursuant to guidelines of the CEQR Technical Manual and will be coordinated with NYCT.	Design and resource allocation will begin immediately after the passenger volume threshold is exceeded and will be implemented prior to overall ridership at the station exceeding 90 percent of 2019 levels (if construction by an outside developer is not likely in the foreseeable future).	TBTA will lead in partnership MTA NYCT.
4E - Transportation: Pedestrians and Bicycles - Pedestrian Circulation	Herald Square/Penn Station NY	NYCDOT will implement a monitoring plan at this location. The plan will include a baseline, specific timing, and a threshold for additional action. If that threshold is reached, NYCDOT will increase pedestrian space on sidewalks and crosswalks via physical widening and/or removing or relocating obstructions.	Exact timing will be based on seasonality and other factors such as construction activity. Baseline data will be collected within the six months prior to Project implementation. Post-implementation data will be collected within the first year after Project implementation.	An additional 221 pedestrians per hour (pph) during the weekday AM peak hour or 204 pph during the PM peak hour along the west sidewalk of Eighth Avenue between West 34th and West 35th Streets, 265 pph during the AM peak hour or 259 pph during the PM peak hour on the north crosswalk at Sixth Avenue and West 34th Street, and/or 221 pph during the AM peak hour on the north crosswalk at Seventh Avenue and West 32nd Street. The methods of data collection and evaluation will follow standard practices pursuant to guidelines of the CEQR Technical Manual and will be coordinated with NYCDOT.	Within 90 days of observing pedestrian counts in excess of the threshold for next steps.	NYCDOT will lead.

EA CHAPTER TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST-PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEPS WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
6 – Economic Conditions - Economic Effects of Toll Costs	Manhattan CBD	New in Final EA: The Project Sponsors commit to establishing a Small Business Working Group (SBWG) that will meet six months prior and six months after Project implementation, and annually thereafter, to solicit ongoing input on whether and how businesses are being affected.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Membership will be confirmed six months prior to Project implementation, with the first meeting taking place prior to implementation, the second meeting within the six months after implementation, and meetings annually thereafter.	TBTA will lead, in partnership with NYSDOT and NYCDOT.
	Multiple throughout the study area	New in Final EA: TBTA will ensure the overnight toll for trucks and other vehicles is reduced to at or below 50 percent of the peak toll from at least 12:00 a.m. to 4:00 a.m. in the final structure; this will also benefit some workers and businesses.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Concurrent with Project Implementation.	TBTA will lead.
7 – Parks and Recreational Resources	Manhattan CBD	Refer to Chapter 7, "Parks and Recreational Resources," for a listing of measures to avoid adverse effects to parks.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Will occur during design, development, testing and/or construction as per contract.	TBTA will ensure contractors comply with contract requirements.
8 – Historic and Cultural Resources	45 historic properties within the Project's Area of Potential Effects (APE)	Refer to Chapter 8, "Historic and Cultural Resources," for a listing of measures to avoid adverse effects to historic properties.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Will occur during design, development, testing and/or construction as per contract.	TBTA will ensure contractors comply with contract requirements.
10 – Air Quality	New York City	TBTA will coordinate with NYC DOHMH to expand the City's existing network of sensors to monitor priority locations, and supplement a smaller number of real-time PM _{2.5} monitors to provide insight into time-of-day patterns to determine whether the changes in air pollution can be attributed to changes in traffic occurring after implementation of the Project. The Project Sponsors will select the additional monitoring locations in consideration of air quality analysis in the EA and input from environmental justice stakeholders. NYSDEC and other agencies conducting monitoring will also be consulted prior to finalizing the monitoring approach. The Project Sponsors will monitor air quality prior to implementation (setting a baseline) and two years following implementation. Following the initial two-year post-implementation analysis period, and separate from ongoing air quality monitoring and reporting, the Project Sponsors will assess the magnitude and variability of changes in air quality to determine whether more monitoring sites are necessary. Data collected throughout the monitoring program will be made available publicly as data becomes available and analysis is completed. Data from the real-time monitors will be available online continuously from the start of pre-implementation monitoring.	In the year prior to Project implementation (setting a baseline), and two years following Project implementation. Locations and durations will be determined in consideration of land uses and non-Project sources of emissions and with input from environmental justice stakeholders.	N/A – No threshold required; implemented under any adopted tolling structure.	Allocation of resources and approval of work plan is underway. Baseline data will be collected in the year prior to Project implementation, but the exact start and duration will be dependent on timing for Project implementation. The monitoring locations will be confirmed at least four months prior to data collection. No less than six months of data will be collected prior to Project implementation.	TBTA will lead in partnership with NYC DOHMH and NYSDEC.

EA CHAPTER – TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST-PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEPS WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
10 – Air Quality (Cont'd)	Upper Manhattan and the Bronx	MTA is currently transitioning its fleet to zero-emission buses, which will reduce air pollutants and improve air quality near bus depots and along bus routes. MTA is committed to prioritizing traditionally underserved communities and those impacted by poor air quality and climate change and has developed an approach that actively incorporates these priorities in the deployment phasing process of the transition. Based on feedback received during the outreach conducted for the Project and concerns raised by members of environmental justice communities, TBTA coordinated with MTA NYCT, which is committed to prioritizing the Kingsbridge Depot and Gun Hill Depot, both located in and serving primarily environmental justice communities in Upper Manhattan and the Bronx, when electric buses are received in MTA's next major procurement of battery electric buses, which began in late 2022. This independent effort by MTA NYCT is anticipated to provide air quality benefits to the environmental justice communities in the Bronx.	Data on the number and location of MTA's battery electric buses is collected in an ongoing manner.	N/A – No threshold required; implemented under any adopted tolling structure.	Prioritization is complete. Timeline for receipt of buses is the first quarter of 2023.	TBTA will lead in partnership MTA NYCT.
13 – Natural Resources	Sites of tolling infrastructure and tolling system equipment	Refer to Chapter 13, "Natural Resources," for a listing of construction commitments to avoid, minimize, or mitigate potential negative effects.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Will occur during design, development, testing and/or construction as per contract.	TBTA will ensure contractors comply with contract requirements.
14 – Hazardous Waste	Sites of tolling infrastructure and tolling system equipment	Refer to Chapter 14, "Asbestos-Containing Materials, Lead-Based Paint, Hazardous Wastes, and Contaminated Materials," for a listing of construction commitments to avoid, minimize, or mitigate potential negative effects.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Will occur during design, development, testing and/or construction as per contract.	TBTA will ensure contractors comply with contract requirements.
15 – Construction Effects	Sites of tolling infrastructure and tolling system equipment	Refer to Chapter 15, "Construction Effects," for a listing of construction commitments to avoid, minimize, or mitigate potential negative effects.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Will occur during design, development, testing and/or construction as per contract.	TBTA will ensure contractors comply with contract requirements.
17 – Environmental Justice - Low-income drivers	28-county study area	The Project will include a tax credit for CBD tolls paid by residents of the Manhattan CBD whose New York adjusted gross income for the taxable year is less than \$60,000. TBTA will coordinate with the New York State Department of Taxation and Finance (NYS DTF) to ensure availability of documentation needed for drivers eligible for the NYS tax credit.	N/A – No early monitoring required; implemented under any adopted tolling structure. Data on the utilization of tax credits for CBD tolls paid will be collected by NYS DTF.	N/A – No threshold required; implemented under any adopted tolling structure.	Coordination with NYS DTF will begin immediately after Project approval, if approved.	TBTA will lead and coordinate with the NYS DTF.
		TBTA will post information related to the tax credit on the Project website, with a link to the appropriate location on the NYS DTF website to guide eligible drivers to information on claiming the credit.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Information will be made available to the public about the tax credit during the public information campaigns at least 60 days prior to Project implementation. Information will be provided through a combination of methods which may include print publications, radio, billboards, websites, social media, and existing MTA assets such as digital subway station signs and bus advertising. Information will be provided in multiple languages and targeted geographically.	TBTA will lead and coordinate with the NYS DTF.

CHAPTER - TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEPS WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
17 - Environmental Justice - Low-income drivers (Cont'd)	28-county study area (Cont'd)	TBTA will eliminate the \$10 refundable deposit currently required for E-ZPass customers who do not have a credit card linked to their account, and which is sometimes a barrier to access.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	60 days prior to Project implementation.	TBTA will lead.
		TBTA will provide enhanced promotion of existing E-ZPass payment and plan options, including the ability for drivers to pay per trip (rather than a pre-loaded balance), refill their accounts with cash at participating retail locations, and discount plans already in place, about which they may not be aware.	N/A - No early monitoring required; implemented under any adopted tolling structure. Information on the scope and reach of promotion efforts will be documented, and data on E-ZPass account type and volume is collected in an ongoing manner.	N/A - No threshold required; implemented under any adopted tolling structure.	Promotion will be part of the public information campaigns at least 60 days prior to Project implementation.	TBTA will lead.
		TBTA will coordinate with MTA to provide outreach and education on eligibility for existing discounted transit fare products and programs, including those for individuals 65 years of age and older, those with disabilities, and those with low incomes, about which many may not be aware.	N/A - No early monitoring required; implemented under any adopted tolling structure. Information on the scope and reach of outreach efforts will be documented.	N/A - No threshold required; implemented under any adopted tolling structure.	Outreach will be part of the public information campaigns at least 60 days prior to Project implementation.	TBTA will lead in partnership with MTA.
		The Project Sponsors commit to establishing an Environmental Justice Community Group that will meet on a quarterly basis, with the first meeting taking place prior to Project implementation. As it relates to environmental justice, the Project Sponsors will continue providing meaningful opportunities for participation and engagement by sharing updated data and analysis, listening to concerns and seeking feedback on the toll setting process.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Membership will be confirmed six months prior to Project implementation, with the first meeting taking place prior to implementation, the second meeting within the six months after implementation, and meetings quarterly thereafter.	TBTA will lead, in partnership with NYSDOT and NYCDOT.
		New in Final EA: TBTA will ensure the overnight toll for trucks and other vehicles is reduced to at or below 50 percent of the peak toll from at least 12:00 a.m. to 4:00 a.m. in the final CBD toll structure; this will benefit low-income drivers who travel during that time.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Concurrent with Project implementation.	TBTA will lead.
		New in Final EA: For five years, TBTA commits to a Low-Income Discount Plan for frequent low-income drivers who will benefit from a 75 percent discount on the full CBD E-ZPass toll rate for the applicable time of day after the first 10 trips in each calendar month (not including the overnight period, which will already be deeply discounted).	N/A - No early monitoring required; implemented under any adopted tolling structure; application process will begin several months in advance of the commencement of tolling operations.	N/A - No threshold required; implemented under any adopted tolling structure.	Concurrent with Project implementation.	TBTA will lead.
	New York City	TBTA will coordinate with MTA NYCT to improve bus service in areas identified in the EA as the Brooklyn and Manhattan Bus Network Redesigns move forward.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Coordination between TBTA and NYCT is ongoing and will increase after toll rates are set. The Brooklyn Bus Network Redesign Draft Plan was published in December 2022 and will be refined in 2023. The next step in the Manhattan Bus Network Redesign is an Existing Conditions Report.	TBTA will coordinate with NYCT.
17 - Environmental Justice - Taxi and FHV drivers	New York City	New in Final EA: TBTA will ensure that a toll structure with tolls of no more than once per day for taxis or FHVs is included in the final CBD toll structure.	N/A - No threshold required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Concurrent with Project implementation.	TBTA will lead.

EA CHAPTER - TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST-PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEPS WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
17 - Environmental Justice - Traffic diversion to certain communities already overburdened by pre-existing air pollution and chronic diseases (See Note 1)	Multiple throughout the environmental justice study area	New in Final EA: TBTA will ensure the overnight toll for trucks and other vehicles is reduced to at or below 50 percent of the peak toll from at least 12:00 a.m. to 4:00 a.m. in the final structure; this will reduce truck diversions.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Concurrent with Project implementation.	TBTA will lead.
		New in Final EA: NYCDOT will expand NYC Clean Trucks Program to accelerate the replacement of eligible old diesel trucks, which travel on highways in certain environmental justice communities where the Project is projected to increase truck traffic, to lower-emission electric, hybrid, compressed natural gas, and clean diesel vehicles.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Engagement with truck-owning companies will start after toll rates are set; implementation will begin within six months of start of tolling operations.	NYCDOT will lead.
		New in Final EA: NYCDOT will expand its off-hours deliveries program in locations where the Project is projected to increase truck traffic to reduce daytime truck traffic and increase roadway safety in certain environmental justice communities.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Engagement with shippers and receivers will start after toll rates are set; implementation will begin within six months of start of tolling operations.	NYCDOT will lead.
	FDR Drive between the Brooklyn Bridge and East Houston Street	New in Final EA: TBTA will toll vehicles traveling northbound on the FDR Drive their exit at East Houston Street and then turn to immediately travel south on FDR Drive; this will mitigate modeled non-truck traffic increases on the FDR Drive between the Brooklyn Bridge and East Houston Street.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Concurrent with Project implementation.	TBTA will lead.
	Hunts Point Produce Market	New in Final EA: The Project Sponsors will coordinate to replace diesel-burning TRUs with cleaner vehicles at the Hunts Point Produce Market.	N/A - No early monitoring required; implemented under any adopted tolling structure.	N/A - No threshold required; implemented under any adopted tolling structure.	Engagement with TRU owners and lessees for TRU replacement will start immediately after receiving Project approval.	NYCDOT will lead.
	The specific census tracts that would experience increased or decreased truck traffic change slightly depending on the tolling scenario. The following communities could have census tracts that merit place-based mitigation: High Bridge, Morrisania and Crotona, Tremont, Hunts Point, Mott Haven, Pelham, Throgs Neck, Northeast Bronx, East Harlem, Randall's Island, Downtown Brooklyn, Fort Greene, South Williamsburg, Orange, East Orange, Newark, and Fort Lee. (See Note 2).	New in Final EA: NYSDOT will coordinate to expand electric truck charging infrastructure.	After toll rates are set, analyses of the adopted toll structure will be undertaken as outlined in Appendix 17D to determine where truck diversions are expected to occur. With this analysis and through continued engagement with the Environmental Justice Community Group and other stakeholders, specific locations for place-based mitigation will be determined. Data on the scope and impact of mitigation measures implemented will be collected in an ongoing manner.	N/A - No threshold required; implemented under any adopted tolling structure.	Specific locations will be determined after toll rates are set; implementation will begin within six months of start of tolling operations.	NYSDOT will lead.
		New in Final EA: The Project Sponsors will coordinate to install roadside vegetation to improve near-road air quality.			Specific locations will be determined with the affected communities after toll rates are set; implementation will begin within six months of start of tolling operations.	The Project Sponsors will coordinate with relevant state and local agencies.
		New in Final EA: The Project Sponsors will renovate parks and greenspaces.			Specific locations will be determined with the affected communities after toll rates are set; implementation timing will be determined after locations are confirmed.	The Project Sponsors will coordinate with relevant local agencies.
		New in Final EA: The Project Sponsors will install or upgrade air filtration units in schools.			After the toll rates are set, a site/needs assessment will take place prior to start of tolling operations; implementation timing will be determined after locations are confirmed.	The Project Sponsors will coordinate with relevant local agencies.
		New in Final EA: The Project Sponsors will work with NYC DOHMH to expand their asthma case management program and create new community-based asthma programming through a neighborhood asthma center in the Bronx.			After the toll rates are set, a site/needs assessment will take place prior to start of tolling operations; implementation timing will be determined after locations are confirmed.	The Project Sponsors will coordinate with NYC DOHMH.

TABLE 17-1: Mitigation and Enhancement Measures for the Project

EA CHAPTER - TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEPS WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
Overall Project Enhancement	Manhattan CBD and locations of potential Project effects	The Project Sponsors commit to ongoing monitoring and reporting of potential effects of the Project, including for example, traffic entering the CBD, vehicle-miles traveled in the CBD; transit ridership from providers across the region; bus speeds within the CBD; air quality and emissions trends; parking; and Project revenue. Data will be collected in advance and after implementation of the Project. A formal report on the effects of the Project will be issued one year after implementation and then every two years. In addition, a reporting website will make data, analysis, and visualizations available in open data format to the greatest extent practicable. Updates will be provided on at least a bi-annual basis as data becomes available and analysis is completed. This data will also be used to support an adaptive management approach to monitoring the efficacy of mitigation, and adjustments as warranted.	Baseline data gathering began in 2019 and will continue through Project implementation as data from external sources becomes available (with some data sets published only annually or quarterly) and data analysis is completed. After Project implementation, these data sets will continue to be collected as they become available and new data sets, such as Project revenue, will start being collected.	N/A - No threshold required; implemented under any adopted tolling structure.	The reporting website will begin reporting baseline data and post-implementation data from the tolling system as soon as practicable, after Project implementation. A formal report on the effects of the Project will be issued one year after implementation and then every two years. In addition, the reporting website will make data, analysis, and visualizations available in open data format to the greatest extent practicable. Updates will be provided on at least a bi-annual basis as data becomes available and analysis is completed. This data will also be used to support an adaptive management approach to monitoring the efficacy of mitigation, and adjustments as warranted.	TBTA will lead in partnership with NYCDOT, NYSDOT, with coordination with other agencies and entities for data as appropriate.

Notes:

- 1 To fund the mitigation measures for this topic the Project Sponsors have committed \$155 million over five years. The Project Sponsors commit to these measures, regardless of the tolling structure eventually adopted. The allocation of funding is described in greater detail in Chapter 17, "Environmental Justice." An additional \$5 million has been allocated for mitigation and enhancement measures related to monitoring across other topics, along with \$47.5 million for the low-income toll discount.
- 2 The Project Sponsors have committed to a toll policy that will reduce the overnight toll rate from at least 12:00 a.m. to 4:00 a.m. Based on the modeling undertaken for the tolling scenarios analyzed in the EA, it is expected that this policy will avoid a substantial portion of projected truck diversions, as many of these diverted trucks were projected to occur during the overnight hours. Following the adoption of the CBD tolling structure by the TBTA Board, which will include this overnight exemption/discount, modeling of the adopted tolling structure will be undertaken to determine where truck diversions are expected to occur. Following this analysis, specific siting of place-based mitigation measures will require further coordination between the Project Sponsors, the Environmental Justice Community Group (representing the 10-county environmental justice study area), the relevant communities receiving the place-based mitigation, and relevant local and state implementing agencies.

WHAT ARE THE PROJECT'S EFFECTS TO SECTION 4(f) PROPERTIES?

Section 4(f) of the U.S. Department of Transportation Act of 1966 (now 49 USC Section 303 and 23 USC Section 138) prohibits USDOT agencies, including FHWA, from approving any program or project that requires the “use” of any publicly owned parkland, recreation area, or wildlife and waterfowl refuge; or any land from a publicly or privately owned historic site of national, state, or local significance (collectively, Section 4(f) resources), unless: (1) there is no feasible and prudent avoidance alternative to the use of the land, and the action includes all possible planning to minimize harm to the Section 4(f) resource; or (2) the agency determines that the use of the property will have a *de minimis* impact.

A project uses a Section 4(f) property if it:

- Permanently incorporates land from the Section 4(f) property into a transportation facility;
- Temporarily occupies land that is part of a Section 4(f) property, such as during construction; or
- Results in a “constructive” use of the Section 4(f) property, where there is no permanent incorporation or temporary occupancy of land, but the proximity impacts (e.g., visual and noise) of a project are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired.

A *de minimis* impact involves the use of Section 4(f) property that is generally minor in nature and results in no adverse effect to a historic site and no adverse effect to the activities, features, or attributes qualifying a park, recreation area, or refuge for protection under Section 4(f).

FHWA evaluated the Project's potential effects on Section 4(f) properties and determined that the CBD Tolling Alternative would not result in any use of Section 4(f) properties other than Central Park and the High Line for the following reasons:

- Central Park: Tolling system equipment is proposed on four poles at three detection locations on park roadways just inside the park near 59th Street. The equipment would be mounted on poles, replacing existing poles in the same locations and would prevent authorized vehicles from using the park to enter the Manhattan CBD without paying the toll. Because the Project Sponsors must have continued access to the poles for maintenance, FHWA intends to make a finding that the CBD Tolling Alternative would result in a *de minimis* impact on Central Park.
- High Line: The CBD Tolling Alternative would attach tolling system equipment to the High Line, a former railroad viaduct that now has a linear park on the former trackbed.³³ The tolling system equipment would be mounted beneath the trackbed structure on a metal pipe, bolted to the existing girders of the viaduct. No tolling infrastructure or tolling system equipment would be within or visible from the publicly accessible parkland that is atop the High Line. Because the Project Sponsors require permanent access to the tolling equipment attached to the underside of the High Line, FHWA intends to make a finding that the CBD Tolling Alternative would result in a *de minimis* impact on the High Line.

[The EA as published in August 2022 described FHWA's proposed] finding that the CBD Tolling Alternative would result in a *de minimis* impact on Central Park and the High Line, and the officials with jurisdiction over these resources concurred with this finding and the New York State Historic Preservation Office has concurred with FHWA's determination that there would be no adverse effect on Central Park as a historic property. [The EA as published in August 2022 also described FHWA's proposed finding that the temporary occupancy of Central Park for construction of the CBD Tolling Alternative would not impair the protected activities, features, or attributes that qualify Central Park for protection under Section 4(f), and

therefore, the temporary occupancy of Central Park is not a use of this Section 4(f) property.

[Following consideration of public input received during the public comment period, FHWA has concluded the CBD Tolling Alternative would not affect the activities, features, and attributes that qualify the High Line for protection under Section 4(f), and the CBD Tolling Alternative would have a de minimis impact on Central Park.]

Chapter 19, “Section 4(f) Evaluation,” provides further detail and support of this finding.

ENDNOTES

- ¹ U.S. Census Bureau. American Community Survey, 2015-2019; U.S. Census Bureau, 2012–2016 Census Transportation Planning Package.
- ² U.S. Census Bureau, 2012–2016 Census Transportation Planning Package; New York State Comptroller. 2017. New York City's Office Market report; U.S. Census Bureau. American Community Survey, 2015 to 2019.
- ³ American Public Transportation Association. 2021 *Public Transportation Fact Book*, Table 10. <https://www.apta.com/wp-content/uploads/APTA-2021-Fact-Book.pdf>
- ⁴ As of July 1, 2021, the estimated population of Los Angeles was 3,849,297. U.S. Census Bureau. Quickfacts. <https://www.census.gov/quickfacts/fact/table/losangelescitycalifornia,losangelescountycalifornia,CA/PST045221>.
- ⁵ New York Metropolitan Transportation Council. January 2021. *Hub Bound Travel Data Report 2019*. Transit includes subway, commuter rail, bus, ferry, and tram. NYMTC relies on passenger, vehicle, and bicycle counts to prepare the hub bound data, and these counts include work and non-work trips. Therefore, percentages of travel by mode vary from census data. https://www.nymtc.org/Portals/0/Pdf/Hub%20Bound/2019%20Hub%20Bound/DM_TDS_Hub_Bound_Travel_2019.pdf?ver=GS5smEoyHSsHsyX_tZriw%3d%3d.
- ⁶ **[U.S. Census Bureau, 2012–2016 Census Transportation Planning Package.]**
- ⁷ As defined by the MTA Reform and Traffic Mobility Act, the Manhattan CBD consists of the geographic area of Manhattan south of and inclusive of 60th Street to the extent practicable but does not include the Franklin D. Roosevelt (FDR) Drive and the West Side Highway/Route 9A, including the Battery Park Underpass and any surface roadway portion of the Hugh L. Carey Tunnel that connects to West Street (the West Side Highway/Route 9A).
- ⁸ Merriam-Webster, “How did ‘gridlock’ move so quickly?” <https://www.merriam-webster.com/words-at-play/the-history-of-gridlock>.
- ⁹ INRIX 2021 Global Traffic Scorecard. <https://inrix.com/scorecard-city/?city=New%20York%20City%20NY&index=5>.
- ¹⁰ MTA Subway and Bus Ridership for 2019. <https://new.mta.info/coronavirus/ridership>. Bus ridership reflects the total annual reported numbers for New York City Transit and MTA Bus Company.
- ¹¹ American Public Transportation Association. 2021 *Public Transportation Fact Book*, Table 10. <https://www.apta.com/wp-content/uploads/APTA-2021-Fact-Book.pdf>. American Public Transit Association. “Public Transportation Ridership Report: Fourth Quarter 2021.” <https://www.apta.com/wp-content/uploads/2021-Q4-Ridership-APTA.pdf>.
- ¹² Ernst & Young, LLP, *Economic impacts of the Metropolitan Transportation Authority's 2020-2024 Capital Investment Strategy*. Prepared for The Partnership of New York City. March 2019. <https://pfny.org/wp-content/uploads/2020/01/MTA-Capital-Plan-2020-24-Econ-Impacts.pdf>.
- ¹³ MTA. October 1, 2019. *2020–2024 Capital Program: Executive Summary*. <https://new.mta.info/sites/default/files/2019-09/MTA%202020-2024%20Capital%20Program%20-%20Executive%20Summary.pdf>.
- ¹⁴ Ibid.
- ¹⁵ This reflects the portion of the capital program for transit improvements; it includes an additional \$254 million for other transit projects not identified here, as well as a December 2021 amendment that increased the transit- and rail-related portion of the program by \$535 million. The full capital program, including non-transit improvements, includes \$55.3 billion in projects.
- ¹⁶ MTA. October 1, 2019. *2020–2024 Capital Program: Executive Summary*. <https://new.mta.info/sites/default/files/2019-09/MTA%202020-2024%20Capital%20Program%20-%20Executive%20Summary.pdf>.
- ¹⁷ In April 2019, the legislature passed the MTA Reform and Traffic Mobility Act that authorized TBTA to design, develop, build and operate the Project. Among the provisions, the Act requires that a Traffic Mobility Review Board (TMRB) be established to make recommendations on the toll rates as well as to develop recommendations on crossing credits, exemptions, or discounts. Refer to **Appendix 2B, “Project Alternatives: MTA Reform and Traffic Mobility Act.”**

- ¹⁸ The travel demand modeling conducted for this EA and described in **Subchapter 4A, “Transportation: Regional Transportation Effects and Modeling,”** included the bicycle lanes as part of the No Action Alternative but not the existing condition.
- ¹⁹ Ibid.
- ²⁰ New bicycle lanes and bus lanes were incorporated in the transportation modeling conducted for this EA and described in **Subchapter 4A, “Transportation: Regional Transportation Effects and Modeling,”** as appropriate.
- ²¹ *[As examples, a “frequent” driver could be someone regularly commuting to work or someone who regularly visits a facility for medical care.]*
- ²² *[The Project Sponsors commit to a five-year period for the discounted toll rate to allow time for frequent low-income drivers to try alternatives and/or adjust their travel habits as capital projects increase reliability and access.]*
- ²³ *[Importantly, in many cases, once these customers have E-ZPass, they will also benefit from lower toll rates (compared to Tolls by Mail) on other facilities, including but not limited to the Port Authority of NY & NJ tunnels and bridges, TBTA’s bridges and tunnels, the New York State Bridge Authority bridges, and the New York State Thruway, thus reducing their overall toll expenditure.]*
- ²⁴ *[This commitment would not preclude New York City taxi and FHV drivers from benefiting from the low-income driver mitigation measures, including the Low-Income Discount Plan for their vehicles that are not licensed as taxis or FHVs, provided that they can demonstrate eligibility.]*
- ²⁵ *[USEPA. 2014. “Near Roadway Air Pollution and Health: Frequently Asked Questions.” [US]EPA-420-F-14-044. August. <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100NFFD.PDF?Dockey=P100NFFD.PDF>. p. 1.; As defined by USEPA, air toxics, often referred to as hazardous air pollutants (HAPs), are pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. [US]EPA regulates 187 chemicals under its HAP program (USEPA, 2009d). Most air toxics originate from transportation and industry, including motor vehicles, industrial facilities, and power plants. USEPA. EJSCREEN Environmental Justice Mapping and Screening Tool: EJSCREEN Technical Documentation. September 2019. https://www.epa.gov/sites/default/files/2021-04/documents/ejscreen_technical_document.pdf.]*
- ²⁶ *[USEPA. 2021. “Diesel Particulate Matter (PM) Air Toxics.” EnviroAtlas National Data Fact Sheet. January. <https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/Supplemental/DieselPMairtoxics.pdf>; USEPA. 2014. “Near Roadway Air Pollution and Health: Frequently Asked Questions.” [US]EPA-420-F-14-044. August. <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100NFFD.PDF?Dockey=P100NFFD.PDF>. p. 3; Lattanzio, Richard. 2022. Heavy Duty Vehicles, Air Pollution, and Climate Change. Report IF12043. Washington, DC: Congressional Research Service. <https://crsreports.congress.gov/product/pdf/IF/IF12043>.]*
- ²⁷ *[Grace Brennan, Park on the Highway: Building a Cap Park as a Solution to Decades of Devastation Caused by the Construction of the Cross-Bronx Expressway, 49 Fordham Urb. L.J. 825 (2022). <https://ir.lawnet.fordham.edu/ulj/vol49/iss4/4>; Sooyoung Kim, Zafar Zafari, Martine Bellanger, and Peter Alexander Muennig, 2018. “Cost-Effectiveness of Capping Freeways for Use as Parks: The New York Cross Bronx Expressway Case Study.” American Journal of Public Health 108. P. 379-384. <https://doi.org/10.2105/AJPH.2017.304243>.]*
- ²⁸ *[Negret, Marcel, and Carlos Mandeville. 2020. “Housing Segregation Is a Choice.” Regional Plan Association. August 21, 2020. <https://rpa.org/latest/lab/housing-segregation-is-a-choice>.]*
- ²⁹ *[Though EJScreen uses a 500-meter distance (approximately 1,600 feet) for calculating traffic proximity, the truck traffic proximity calculation presented here uses 300 meters (approximately 1,000 feet). This decision was based on the EJScreen technical documentation and a review of other studies that considered roadway proximity and pollution, including a recent report from the Urban Institute which states that after a literature review, the report authors’ “determined...that pollution is most likely to persist within closer boundaries.” USEPA. 2019. EJSCREEN Technical Documentation. https://www.epa.gov/sites/default/files/2021-04/documents/ejscreen_technical_document.pdf. p. 50; Samuels, Gabe and Yonah Freemark. 2022. The Polluted Life Near the Highway: A review of national scholarship and a Louisville case study. The Urban Institute. <https://www.urban.org/sites/default/files/2022-11/The%20Polluted%20Life%20Near%20the%20Highway.pdf>. p 5; American Lung Association. 2022. Living Near Highways and Air Pollution. <https://www.lung.org/clean-air/outdoors/who-is-at-risk/highways>. November; Kim, Deajin, et. al. 2022. Dynamic grid-receptor method for regional-level near-road air quality analysis. Environment. 105. April. <https://doi.org/10.1016/j.trd.2022.103232>; Carter, Sarah A., et al. In utero exposure to near-roadway air pollution and autism spectrum disorder in children. Environment International. 158. January. <https://doi.org/10.1016/j.envint.2021.106898>.]*
- ³⁰ *[Truck traffic proximity was used for the analysis as it is a better gauge of exposure to traffic. Tolling Scenario E was used for truck traffic changes as it was the tolling scenario with the maximum truck traffic diversions. Both Tolling Scenarios E and G were used to explore non-truck traffic diversions – Tolling Scenario E was used to determine whether truck traffic and non-truck traffic behaved similarly*

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- and then Tolling Scenario G was used as it had the largest potential increases in non-truck traffic. Additional explanation on methodology is provided in Appendix 17D, "Technical Memorandum."**
- ³¹ **[Appendix 17D, "Technical Memorandum" describes and assesses the effects of the Project using the 80th percentile for air pollutants and the 66.66th percentile for chronic disease burdens. The use of the 90th percentile for determining locations for mitigation is consistent with the Environmental Quality's Climate and Economic Justice Screening Tool's methodology for addressing locations for investment.]**
- ³² **[The following communities could have census tracts that merit place-based mitigation: High Bridge, Morrisania and Crotona, Tremont, Hunts Point, Mott Haven, Pelham, Throgs Neck, Northeast Bronx in the Bronx, NY; East Harlem, Randall's Island, and the Lower East Side/Lower Manhattan in Manhattan, NY; Downtown Brooklyn, Fort Greene, and South Williamsburg in Brooklyn, NY; Orange, East Orange, and Newark in Essex County, NJ, and Fort Lee in Bergen County, NJ (except under Tolling Scenario G).]**
- ³³ The High Line is also a historic property (i.e., eligible for listing on the National Register), but is exempt from consideration as a Section 4(f) resource as a historic property as a former railroad property (23 CFR 774.13).

1. Introduction

1.1 OVERVIEW

Traffic congestion has been a problem in the Manhattan Central Business District (Manhattan CBD) for many years.¹ While traffic in the Manhattan CBD decreased during the height of the COVID-19 pandemic, volumes have nearly reached pre-pandemic levels and congestion has returned to Manhattan's streets.² Indeed, in 2020 and 2021, New York City's traffic congestion ranked worst among United States cities, with last-mile speeds in the Manhattan CBD of only 12 mph (Figure 1-1).^{3, 4} At the same time, and as a way to further reduce congestion, the modernization of the Metropolitan Transportation Authority's (MTA's) commuter rail, subway, and bus network is necessary to create a faster, more accessible, and more reliable transportation network for the New York City region's residents, commuters, and visitors.

Figure 1-1. Most Congested Urban Areas (2021)

United States	
1.	New York, NY
2.	Chicago, IL
3.	Philadelphia, PA
4.	Boston, MA
5.	Miami, FL

Source: INRIX, 2021

State and City of New York officials and stakeholder and advocacy groups have conducted multiple studies over the past 45 years to determine the most effective way to address congestion in the Manhattan CBD. These studies overwhelmingly pointed to congestion pricing, or introduction of tolls or fees for drivers, as the most effective tool.⁵ Many studies also identified congestion pricing as a means to generate funds for transit investments in MTA's network. A study by the Lund University Center for Sustainability Studies in Sweden confirms these conclusions, finding that a congestion charge is a highly effective means to reduce vehicular congestion, especially in combination with strategies for parking and traffic control; car sharing; and programs to discount transit for work, school, or personal trips.⁶

The New York City Department of Transportation (NYCDOT), MTA, and other transportation agencies have implemented programs to increase mobility and improve accessibility in the Manhattan CBD by nonvehicular modes and to reduce vehicular congestion. Private companies have collaborated with NYCDOT to establish car-share, scooter-share, and bicycle-share programs. NYCDOT has repurposed curbside parking to establish bicycle lanes and to increase pedestrian space with sidewalk and corner bump

¹ As defined by the MTA Reform and Traffic Mobility Act ("Traffic Mobility Act"), the Manhattan CBD consists of the geographic area of Manhattan south of and inclusive of 60th Street to the extent practicable but does not include the Franklin D. Roosevelt (FDR) Drive and the West Side Highway/Route 9A, including the Battery Park Underpass and any surface roadway portion of the Hugh L. Carey Tunnel that connects to West Street (the West Side Highway/Route 9A).

² Metropolitan Transportation Authority Day-by-Day Ridership Numbers. <https://new.mta.info/coronavirus/ridership>.

³ INRIX 2020 Global Traffic Scorecard. <https://inrix.com/press-releases/2020-traffic-scorecard-us/>.

⁴ INRIX 2021 Global Traffic Scorecard. <https://inrix.com/scorecard-city/?city=New%20York%20City%20NY&index=5>.

⁵ Refer to Appendix 2A, "Project Alternatives: Previous Studies and Concepts Considered," for a description of studies and congestion pricing proposals prepared since 1973.

⁶ Von Arnold, Cecilia. April 26, 2022. "The most effective ways of reducing car traffic," Lund University Center for Sustainability Studies. <https://www.lucsus.lu.se/article/most-effective-ways-reducing-car-traffic>.

outs. It has also converted curbside lanes and general-purpose traffic lanes to dedicated bus lanes on certain Manhattan avenues and east–west, crosstown streets. Additionally, MTA and other transit agencies offer reduced transit fares for the elderly, disabled, and school-aged children, and in early 2022, MTA implemented Fare Capping as part of its new fare system roll out (OMNY), which allows free, unlimited rides to customers the rest of the week once they have spent \$33 (the same as taking 12 trips). Many employers participate in a Federal program that allows employees a tax-free deduction for money used to purchase transit fares, and many companies have adopted flexible work schedules, including options to work remotely. Despite these various initiatives that should reduce vehicular traffic in the Manhattan CBD, and despite the existence in this region of the three largest commuter railroads in the United States, the largest bus system, and the largest subway system (the latter two of which operate 24 hours a day, 7 days a week, every day of the year), congestion persists.

Therefore, the Triborough Bridge and Tunnel Authority (TBTA), an affiliate of MTA; the New York State Department of Transportation (NYSDOT); and NYCDOT (collectively, the Project Sponsors) are proposing a program, known as the Central Business District Tolling Program (CBD Tolling Program or the Project), to address congestion.⁷ The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into the Federal Highway Administration’s (FHWA’s) Value Pricing Pilot Program (VPPP). The Project would address the need to reduce vehicle congestion in the Manhattan CBD and create a new local, recurring funding source for MTA’s capital projects.

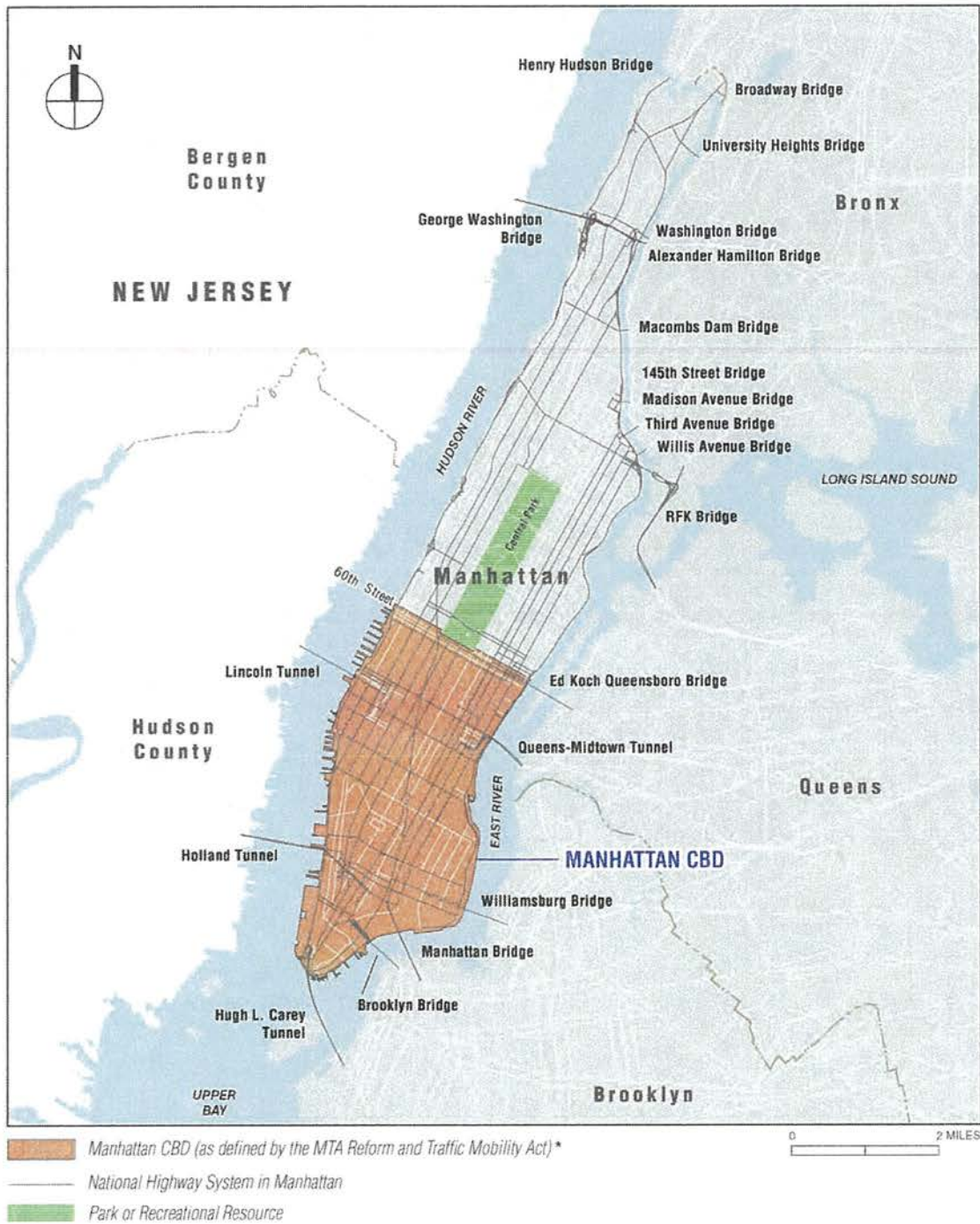
The Project Sponsors are seeking approval of the Project from FHWA under its VPPP, which is a program “intended to demonstrate whether and to what extent roadway congestion may be reduced through application of congestion pricing strategies, and the magnitude of the impact of such strategies on driver behavior, traffic volumes, transit ridership, air quality and availability of funds for transportation programs.”⁸ Through this program, FHWA can provide tolling authority to state, regional, or local governments to implement congestion pricing.⁹ Such approval is sought because certain streets within the Manhattan CBD are part of the National Highway System (**Figure 1-2**) and, in some instances, have been improved with Federal funding through FHWA. When FHWA reviews a Project Sponsor’s application to the VPPP, it must evaluate the potential effects of the proposed action in accordance with the National Environmental Policy Act (NEPA).

⁷ In April 2019, New York State enacted the Traffic Mobility Act, authorizing TBTA to establish the CBD Tolling Program. For more information see Appendix 2B, “Project Alternatives: MTA Reform and Traffic Mobility Act.”

⁸ Federal Highway Administration (FHWA). “Value Pricing Pilot Program.” https://ops.fhwa.dot.gov/congestionpricing/value_pricing/index.htm.

⁹ Ibid.

Figure 1-2. Manhattan CBD, National Highway System Arterials, and Routes into the Manhattan CBD



* As defined by the MTA Reform and Traffic Mobility Act, the Manhattan CBD includes the geographic area in the borough of Manhattan south of and inclusive of 60th Street to the extent practicable but shall not include the FDR Drive and New York State Route 9A/West Side Highway, including the Battery Park underpass and any surface roadway portion of the Hugh L. Carey Tunnel connecting to West Street.

Source: ArcGIS Online, <https://www.arcgis.com/index.html>.

FHWA, in consultation with the Project Sponsors, has prepared this Environmental Assessment (EA) in accordance with NEPA and the NEPA implementing regulations promulgated by the Council on Environmental Quality (40 Code of Federal Regulations [CFR] Parts 1500 through 1508 and 1515 through 1518) and FHWA (23 CFR Part 771). FHWA is serving as the lead Federal agency for the NEPA review. The Project is being progressed as a NEPA Class III (EA) action under 23 CFR Part 771. NEPA Class III actions are those in which the significance of the environmental impact is not clearly established. This EA has been prepared to determine if the Project is likely to have a significant impact on the built and natural environment, thereby requiring the preparation of an Environmental Impact Statement.

1.2 PROJECT SETTING

New York City is the center of a large metropolitan region that includes portions of three states: New York, New Jersey, and Connecticut. The metropolitan region is the largest in the United States, with 22.2 million people and more than 10.7 million jobs. Within this region, New York City is the economic hub, with roughly 4.6 million (43 percent) of the region's jobs and 8.4 million (38 percent) of the region's population.^{10, 11} For this study, the New York region comprises 28 counties, consisting of 12 counties in New York State (including the 5 counties that form New York City), 14 counties in New Jersey, and 2 counties in Connecticut.¹² **Figure 1-3** shows the regional study area.

Although New York City and the metropolitan region are home to multiple commercial districts, the traditional center for economic activity has been and continues to be Manhattan, particularly the commercial districts in Midtown (generally the area between 14th and 59th Streets) and Lower Manhattan (generally the area south of Canal Street). As defined for this Project, the Manhattan CBD consists of the geographic area of Manhattan south of and inclusive of 60th Street to the extent practicable but does not include the Franklin D. Roosevelt (FDR) Drive and the West Side Highway/Route 9A, including the Battery Park Underpass and any surface roadway portion of the Hugh L. Carey Tunnel that connects to West Street (the West Side Highway/Route 9A) (see **Figure 1-2**).

¹⁰ U.S. Census Bureau. American Community Survey, 2015–2019.

¹¹ U.S. Census Bureau, 2012–2016 Census Transportation Planning Package.

¹² The 28-county regional study area consists of Bronx, Dutchess, Kings (Brooklyn), Nassau, New York (Manhattan), Orange, Putnam, Queens, Richmond (Staten Island), Rockland, Suffolk, and Westchester Counties in New York; Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren Counties in New Jersey; and Fairfield and New Haven Counties in Connecticut.

Figure 1-3. Regional Study Area



Source: ArcGIS Online, <https://www.arcgis.com/index.html>.

1.2.1 Regional Development Patterns

An island, Manhattan is separated from New Jersey by the Hudson River, from Brooklyn and Queens by the East River, from the Bronx by the Harlem River, and from Staten Island by New York Harbor. The Manhattan CBD is characterized by the following:

- Its skyline
- Cultural destinations (e.g., Theater District, World Trade Center Memorial and Museum, and Museum of Modern Art)
- Financial institutions (e.g., Wall Street and Midtown's business districts)
- Shopping districts (e.g., Fifth Avenue and Herald Square)
- Colleges and universities (e.g., New York University, The New School, the Fashion Institute of Technology)

The Manhattan CBD is not only a destination for business and commerce, but also home to about 617,000 residents.¹³ Many residents of the Manhattan CBD live in mid-rise and high-rise apartment buildings; there are also several neighborhoods with lower density loft buildings, townhouses, rowhouses, and tenement housing such as Soho, Greenwich Village, the East Village, Chelsea, and Hell's Kitchen.

Upper Manhattan is more residential in character than the Manhattan CBD. The Upper West Side and Upper East Side neighborhoods border the Manhattan CBD as does Central Park. Like the Manhattan CBD, Upper Manhattan is characterized by a mix of land uses, although more residential and institutional uses are present in Upper Manhattan than the Manhattan CBD. Upper Manhattan also contains large public parks of a scale not found in the Manhattan CBD, including Central Park, Riverside Park, Morningside Park, and Highbridge Park.

Queens and Brooklyn, part of New York City and the largest boroughs in terms of land mass, are across the East River. While the neighborhoods in these boroughs are generally not as dense as Manhattan, some areas include substantial high-rise development (e.g., Long Island City, Downtown Brooklyn), and most neighborhoods are urban in character with mid-rise apartment buildings, brownstones, townhouses, and single-family houses on small lots. These boroughs are home to important transportation and entertainment destinations for the region (e.g., John F. Kennedy and LaGuardia Airports, Barclays Center, Citi Field, U.S. Tennis Center, Belmont Park, Coney Island). Nassau and Suffolk Counties, which are typically referred to as Long Island, lie east of Queens.

Toward the north, the Bronx is one of the most densely populated and poorest counties in the United States. Neighborhoods nearest Manhattan tend to have mid-rise to high-rise apartment buildings, and areas more distant from Manhattan and along the Hudson River tend to have single-family housing. Entertainment, educational, and cultural institutions in the Bronx include Yankee Stadium, the New York

¹³ U.S. Census Bureau. American Community Survey, 2015–2019.

Botanical Garden, Bronx Zoo, and Fordham University. The Bronx has several large industrial and warehousing areas, and it is crossed by many interstate highways and arterial roadways that carry heavy volumes of traffic, including trucks. Westchester County borders the Bronx to its north.

Geographically isolated from the rest of New York City, Staten Island is the smallest borough in terms of population. It has much lower population density than the other boroughs of New York City, and its residential and commercial development patterns are characteristic of the suburbs. No roadway connects Staten Island and the Manhattan CBD so drivers from Staten Island must travel through Brooklyn or New Jersey to reach Manhattan.

Hudson County, New Jersey, contains multiple cities, such as Hoboken, Jersey City, and West New York. These cities have development patterns similar to the Bronx, Brooklyn, and Queens with a mix of high-rise and mid-rise housing, including apartment towers, townhouses, brownstones, and rowhouses. Jersey City has a large business district that includes several office towers along its Hudson River waterfront.

The New York City metropolitan region has a long development history and has diverse settlement patterns and housing stock. The counties that lie beyond the five boroughs of New York City and Hudson County, New Jersey, have small, long-established towns with urbanized town centers that have grown to include suburban subdivision developments. There are smaller cities with densely developed downtown areas, high- and mid-rise multifamily housing, and single-family houses on small lots (e.g., Bridgeport, Connecticut; Great Neck, Long Island; Newark, New Jersey; and White Plains, New York) and waterfront communities that were established as recreational retreats but have become year-round communities. Farms and small rural communities are near the farther extents of the regional study area.

1.2.2 Traveling to the Manhattan CBD

The New York metropolitan region has a robust transit network, with the largest subway and bus systems and the three largest commuter rail systems in the United States.¹⁴ Indeed, the transit network is unparalleled in many cities with respect to the number of routes and types and frequency of service. The Manhattan CBD is the hub for much of this network and people can arrive via the following options:¹⁵

- The New York metropolitan area's three commuter rail systems:
 - Long Island Rail Road (LIRR) provides service connecting Brooklyn, Queens, Nassau, Suffolk, and Penn Station New York. LIRR will also soon provide service to the new Grand Central Madison terminal.
 - Metro-North Railroad (Metro-North) provides service connecting Grand Central Terminal and Manhattan north of 125th Street, the Bronx, Westchester, Putnam, and Dutchess Counties in New York State (east of Hudson), and southwestern Connecticut. Through agreement with NJ TRANSIT,

¹⁴ American Public Transit Association (APTA). "Public Transportation Ridership Report: Fourth Quarter 2021." <https://www.apta.com/wp-content/uploads/2021-Q4-Ridership-APTA.pdf>.

¹⁵ A limited number of people also arrive by helicopter at one of three heliports in Manhattan and by seaplane using the Midtown Skyport on the East River.

Metro-North also provides service connecting Orange and Rockland Counties (west of Hudson) with Penn Station New York.

- NJ TRANSIT connects the New Jersey counties and Penn Station New York or Hoboken Terminal in New Jersey, from which passengers can take the Port Authority Trans-Hudson (PATH) train to multiple stations in Manhattan CBD.
- The New York City subway consists of 28 routes that operate in Bronx, Brooklyn, Manhattan, and Queens in New York City. Twenty-five subway routes traverse or terminate in the Manhattan CBD. Most routes that traverse the Manhattan CBD have multiple stations in the area, serving commuters to the Manhattan CBD and local trips for its residents. Several subway stations in the Manhattan CBD are interchange points between subway routes.
- The New York region has a vast bus network. The Manhattan CBD is served by commuter buses operated by transit agencies and private companies, providing service between neighborhoods in the New York City boroughs and suburban counties and the Manhattan CBD. Many bus routes terminate at the Port Authority Bus Terminal in Midtown Manhattan. Multiple express/Select Bus Service and local bus routes operate along the north–south avenues and east–west streets within the Manhattan CBD.
- A tram operates between Roosevelt Island and Manhattan.
- The City of New York and private companies operate ferry service to the Manhattan CBD. Ferry routes to Manhattan operate from the Bronx, Brooklyn, Queens, and Staten Island in New York City and Bergen, Hudson, and Monmouth Counties in New Jersey. The primary ferry terminals in Manhattan are located at West 39th Street and East 34th Street in Midtown Manhattan and Battery Park City and Wall Street/Pier 11 in Lower Manhattan.
- MTA provides on-demand, point-to-point paratransit service for qualifying individuals.

Refer to **Subchapter 4C, “Transportation: Transit,”** for more detailed information about the region’s transit systems.

People may also reach the Manhattan CBD on foot or by bicycle. The north–south avenues that cross 60th Street have sidewalks, and bicycle lanes are available on Amsterdam Avenue, Columbus Avenue, Central Park West, Second Avenue, and First Avenue. Shared-use bicycle and pedestrian paths also run along the Hudson and East Rivers. From Brooklyn and Queens, people may cross the Ed Koch Queensboro, Williamsburg, Manhattan, and Brooklyn Bridges by bicycle or on foot. There is no direct bicycle or pedestrian access between New Jersey and the Manhattan CBD since pedestrians are prohibited from the tunnel crossings.¹⁶

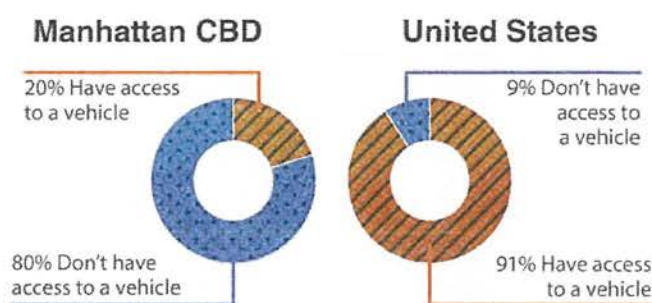
¹⁶ Pedestrians and bicyclists are permitted to cross the George Washington Bridge and can reach the Manhattan CBD using the Hudson River Greenway or one of Manhattan’s north–south avenues.

1.2.3 Traveling within the Manhattan CBD

The Manhattan CBD has a long development history, beginning before the advent of the automobile and rapidly expanding before the predominance of the automobile. Thus, options other than private automobiles are available to travel around the Manhattan CBD. As noted previously, numerous subway and bus routes serve the Manhattan CBD, and there is a network of bicycle lanes and a widely available bicycle-share program. The Manhattan CBD is very walkable with sidewalks on both sides of most streets, with mostly signalized intersections that have crosswalks and pedestrian signals, and with many destinations near each other that are easily accessible by foot.

Because most businesses do not offer on-site, free parking and it can be difficult to find curbside parking, driving within the Manhattan CBD is not typical except for commercial deliveries. Indeed, 80 percent of Manhattan CBD residents do not own or have ready access to a vehicle (Figure 1-4).¹⁷ Taxis and for-hire vehicles (FHVs) provide point-to-point service within the Manhattan CBD and are convenient for trips that would otherwise involve multiple transit routes and modes or a long walk (e.g., crosstown trips between the east and west sides of Manhattan).¹⁸ However, trips by taxi or FHVs (a category that includes taxis and app-based services) may be costly. Therefore, many people use the subway, buses, or bicycles to make their longer local trips within the Manhattan CBD. Walking is the typical choice for shorter trips or even longer trips that would otherwise involve multiple transit modes or transfers.

Figure 1-4. Vehicle Access (Manhattan CBD compared to United States)



Sources: Census Transportation Planning Package, American Community Survey 2012-2016

1.2.4 Commuting to the Manhattan CBD

According to 2012–2016 Census Transportation Planning Package (CTPP) data, nearly 10.7 million people have their place of employment in the regional study area. While the Manhattan CBD is the traditional economic hub of the region, many residents of the region do not work in or regularly travel to the Manhattan CBD. In total, approximately 1.5 million people work in the Manhattan CBD, and approximately 1,262,400 of those workers commute to the Manhattan CBD from outside the CBD. Approximately 65 percent of those commuters are from New York City, 8 percent are from Long Island, 7 percent are from

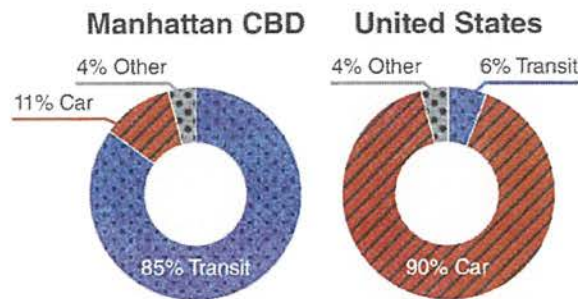
¹⁷ These data are from the CTPP data product based on the 2012–2016 American Community Survey. The CTPP provides custom tables describing residence, workplace, and trips from home to work. The U.S. Census Bureau has not updated the CTPP to reflect more recent American Community Survey data.

¹⁸ While taxis are sometimes considered a type of for-hire vehicle, for the purposes of this EA, they are treated separately.

New York counties north of New York City, 18 percent are from New Jersey, and 2 percent are from Connecticut (see **Figure 1-6** on the following page).

According to 2012–2016 CTPP data, 85 percent of workers who commute to the Manhattan CBD take public transportation to travel to work and 11 percent (approximately 142,500 workers) drive to work. The remaining 4 percent travel by bicycle, walking, motorcycle, and taxi and FHV. This level of commuting by public transportation is much higher than in the United States overall, where most people commute to work by car (**Figure 1-5**).

Figure 1-5. Travel Modes to Work (Manhattan CBD compared to United States)



Sources: Census Transportation Planning Package, American Community Survey 2012-2016

1.3 PROJECT PURPOSE

The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into FHWA's VPPP.

1.4 PROJECT NEEDS

1.4.1 The Need to Reduce Vehicle Congestion in the Manhattan CBD

The Manhattan CBD is the commercial center of a 28-county region that surrounds and includes New York City. Within nine square miles, the Manhattan CBD houses 1.5 million jobs, 450 million square feet of office space, and more than 617,000 residents.^{19, 20, 21} It is also a regional and national destination for commerce, entertainment, and tourism, and the economic hub of the New York City region. The New York City region's population has grown by 5 percent since 2000 and is expected to continue to grow, with the population projected to exceed 25 million by 2045. New York City's population is projected to surpass 9 million by 2045.²²

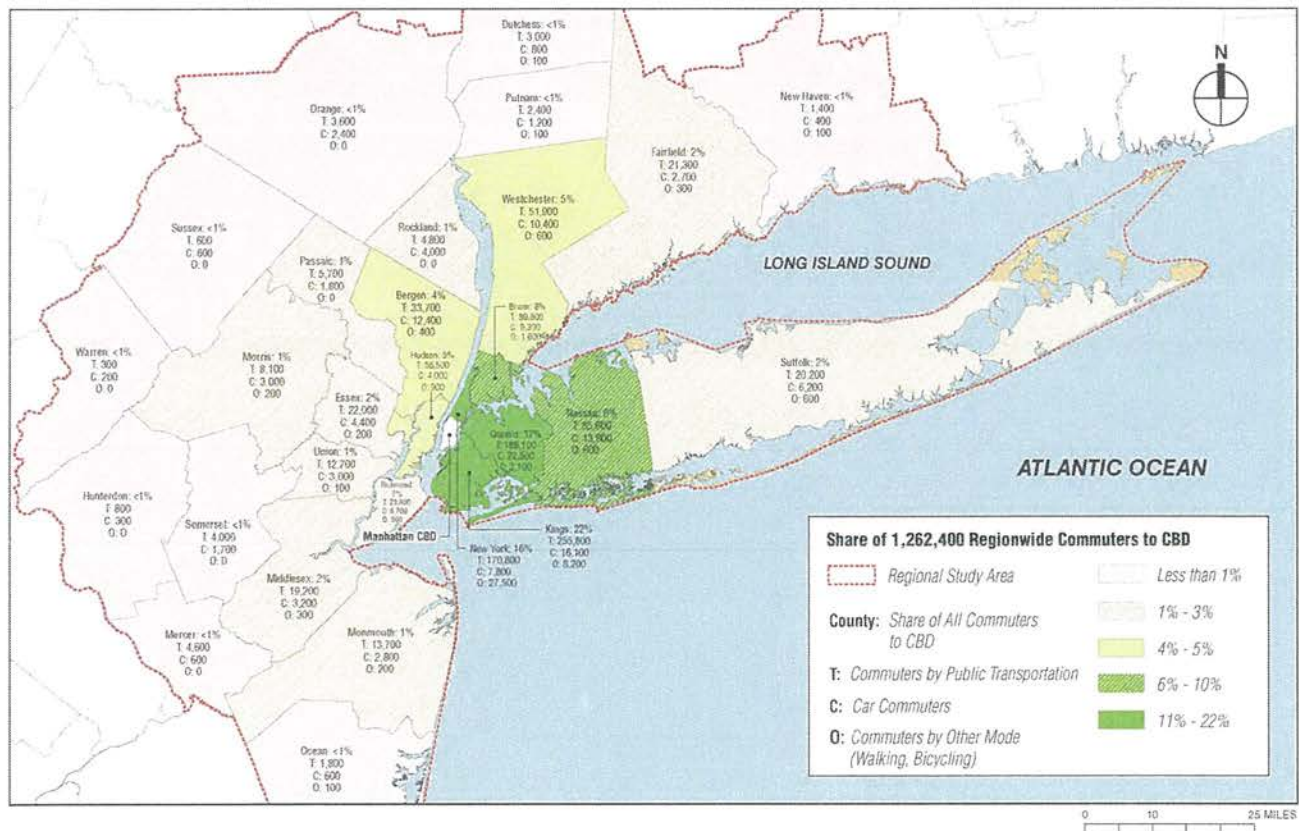
¹⁹ U.S. Census Bureau, 2012–2016 Census Transportation Planning Package.

²⁰ New York State Comptroller. 2017. New York City's Office Market report.

²¹ U.S. Census Bureau. American Community Survey, 2015–2019 Estimates.

²² New York Metropolitan Transportation Council (NYMTC). 2015. 2050 Socioeconomic and Demographic Forecasts. <https://www.nymtc.org/DATA-AND-MODELING/SED-Forecasts/2050-Forecasts>.

Figure 1-6. Manhattan CBD Work Commuters: Origin



Source: U.S. Census Bureau. Census Transportation Planning Package, 2012–2016 Estimate.

The growth in New York City's population and employment, particularly within the Manhattan CBD, has increased traffic congestion and delays, slowing travel and jeopardizing the vitality of the area. A 2018 study by the Partnership for New York City (a local business group) stated that "traffic congestion will be a \$100 billion drag on the New York metro area economy over the next five years." It cited the Manhattan CBD as the primary source of traffic congestion in the region and reported that excess congestion had increased by 53 percent since it began studying the issue in 2006.²³

This congestion makes travel a challenge as well. NYCDOT's *New York City Mobility Report* found that the Manhattan CBD had the highest concentration of slow-moving buses in the entire city during the average weekday PM peak period (4 p.m. to 6 p.m.), with speeds between 5 mph and 6 mph.²⁴ This is substantially slower than the average citywide bus speed of 7.58 mph.²⁵

According to FHWA, "congestion usually relates to an excess of vehicles on a portion of roadway at a particular time resulting in speeds that are slower—sometimes much slower—than normal or 'free-flow' speeds. Congestion often means stopped or stop-and-go traffic."²⁶ FHWA identifies several typical causes of traffic congestion: physical bottlenecks; construction work zones; traffic incidents, such as crashes and disabled vehicles; inclement weather; special events that create a surge in traffic or create detours; day-to-day variability in traffic flows; and insufficient intersection capacity, sometimes related to nonoptimized traffic signals. Of these, FHWA cites bottlenecks as the greatest source of congestion.²⁷ Given that Manhattan is an island, with limited opportunity to increase the roadway capacity within or leading to and from it, the principal means to address congestion caused by bottlenecks is to reduce demand or the number of vehicles that drive into and out of Manhattan.

Congestion by the Numbers

Cost of Congestion: 102 hours of lost time; nearly \$1,595 per year per driver in the New York City region.

Travel Speeds: Decreased [23] percent in the Manhattan CBD, from 9.1 miles per hour (mph) to 7.1 mph between 2010 and 2019.

FHV Registrations: Tripled in New York City, from fewer than 40,000 to more than 120,000 between 2010 and 2019. Due to the effects of the COVID-19 pandemic and the city's continued cap on FHV registrations, the number of FHVs making trips fell to 70,000 by April 2022.

Local Bus Speeds: Declined 28 percent in the Manhattan CBD since 2010. The average speed of Select Bus Service (New York City Transit's bus rapid transit service) routes in Manhattan are 19 percent slower than Select Bus Service routes in other boroughs.

Sources

INRI. 2021 Global Traffic Scorecard. <https://inrix.com/scorecard-city/city-New%20York%20City%20NY%20index%205/>.
 NYCDOT. August 2019. *New York City Mobility Report*. <https://www1.nyc.gov/html/dot/downloads/pdf/mobility-report-print-2019.pdf>.
 New York City Taxi and Limousine Commission and NYCDOT. June 2019. *Improving Efficiency and Managing Growth in New York's For-Hire Vehicle Sector*; NYC TLC FHV trip data.
 NYCDOT. August 2019. *New York City Mobility Report*. <https://www1.nyc.gov/html/dot/downloads/pdf/mobility-report-print-2019.pdf>; New York City Transit analysis.

²³ Partnership for New York City. January 2018. "\$100 Billion Cost of Traffic Congestion in Metro New York". <https://pfnyc.org/wp-content/uploads/2020/01/2018-01-Congestion-Pricing.pdf>.

²⁴ New York City Department of Transportation (NYCDOT). August 2019. *New York City Mobility Report*. <https://www1.nyc.gov/html/dot/downloads/pdf/mobility-report-print-2019.pdf>.

²⁵ Ibid.

²⁶ FHWA. 2020. *Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation*. https://ops.fhwa.dot.gov/congestion_report/executive_summary.htm.

²⁷ Ibid.

The Impact of the COVID-19 Pandemic

In March 2020, in response to the COVID-19 pandemic public health emergency, then New York State Governor Andrew Cuomo issued executive orders that required most nonessential businesses to close, suspended in-person instruction at public schools and universities, and required residents of New York State to remain home except for essential activities. The governors of New Jersey and Connecticut imposed similar restrictions and consequently, the volume of trips to the Manhattan CBD by all travel modes dropped precipitously.

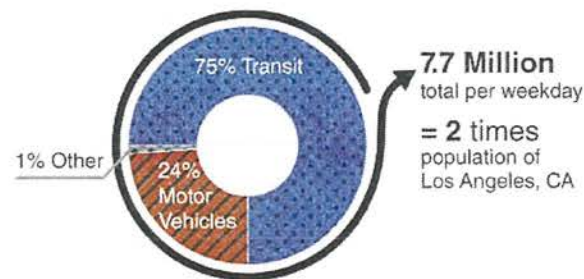
By summer 2021, emergency restrictions were suspended or expired, and many businesses and attractions in the Manhattan CBD reopened. While many office workers continue to work remotely, others have returned to offices or work locations on part-time or full-time schedules.

Weekday MTA subway, bus, and rail ridership remains roughly 35 to 45 percent lower than pre-COVID-19 pandemic levels. However, vehicle crossings at TBTA bridges and tunnels are only about 2 to 3 percent lower than in 2019. As activity is returning to pre-COVID-19 pandemic conditions, so is traffic congestion.

Source
Metropolitan Transportation Authority Day-by-Day Ridership Numbers. <https://new.mta.info/coronavirus/ridership>

The New York Metropolitan Transportation Council (NYMTC) prepares an annual report on commuting statistics into the Manhattan CBD, known as the *Hub Bound Travel Data Report*. The *Hub Bound Travel Data Report 2019* shows that approximately 7,665,000 people entered and exited the Manhattan CBD on an average weekday, which is about twice the population of Los Angeles, California (**Figure 1-7**).²⁸ Most (75 percent) of those people entered and exited via transit, but an estimated 1,856,000 (24 percent) people entered and exited by *[motor]* vehicle (auto, taxi, van, and truck). NYMTC notes that the daily vehicle trips increased in 2019 compared to 2018.²⁹ This translates to more vehicles entering and exiting the Manhattan CBD each day than the entire population of Phoenix, Arizona.³⁰

Figure 1-7. People Entering Manhattan [and Exiting] CBD (by mode)



Source: NYMTC Hub Bound Travel Data Report, 2019

The number of vehicles within the Manhattan CBD builds throughout the day and evening, peaking in the middle of the day and ending in the late-night hours. Between 6:00 a.m. and 10:00 a.m., approximately 40,000 or more private vehicles enter the Manhattan CBD each hour (**Figure 1-8**). While some vehicles leave the Manhattan CBD during that time, they do not offset the accumulation of inbound vehicles. The

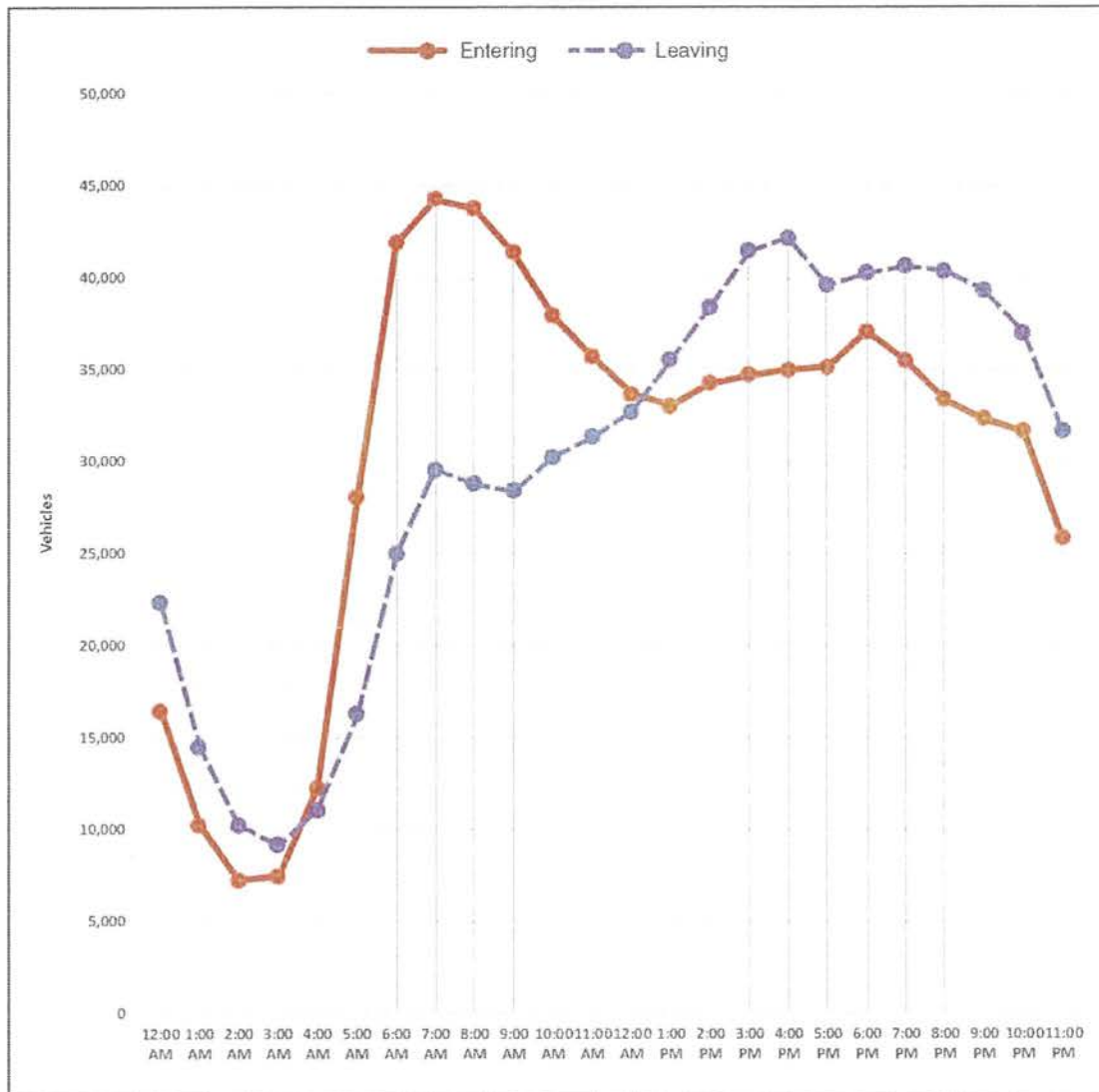
²⁸ As of July 1, 2021, the estimated population of Los Angeles was 3,849,297. U.S. Census Bureau. Quickfacts. <https://www.census.gov/quickfacts/fact/table/losangelescitycalifornia,losangelescountycalifornia,CA/PST045221>.

²⁹ NYMTC. January 2021. *Hub Bound Travel Data Report 2019*. Transit includes subway, commuter rail, bus, ferry, and tram. NYMTC relies on passenger, vehicle, and bicycle counts to prepare the hub bound data, and these counts include work and nonwork trips. Therefore, percentages of travel by mode vary from census data. [https://www.nymtc.org/Portals/0/Pdf/Hub%20Bound/2019%20Hub%20Bound/DM TDS Hub Bound Travel 2019.pdf?ver=GSSsmEoyHSsHsyX_t_Zriw%3d%3d](https://www.nymtc.org/Portals/0/Pdf/Hub%20Bound/2019%20Hub%20Bound/DM%20TDS%20Hub%20Bound%20Travel%202019.pdf?ver=GSSsmEoyHSsHsyX_t_Zriw%3d%3d).

³⁰ As of July 1, 2021, the estimated population of Phoenix was 1,624,589. U.S. Census Bureau. Quickfacts. <https://www.census.gov/quickfacts/phoenixcityarizona>.

trend does not reverse until around 12:00 p.m., when the number of outbound vehicles starts to exceed the number of inbound vehicles, though the variation is much smaller than in the morning.

Figure 1-8. Private Vehicles Entering and Exiting the Manhattan CBD on an Average Weekday



Source: New York Metropolitan Transportation Council. January 2020. *Hub Bound Travel Data Report 2019*.

1.4.1.1 Evidence of Congestion

NYMTC's *Congestion Management Process Status Report* is an annual study of congestion in the New York metropolitan region that reports on the extent of congestion and its effects. The data come from national and local sources and reveal that New York City, and Manhattan in particular, is prone to higher congestion than most urbanized areas in the United States.

One of the well-known ways to demonstrate congestion, used in this report and measured across the country by the Texas A&M Transportation Institute, is the Travel Time Index, which represents the average

additional time required during peak times compared to times of light traffic. If the time required during free-flow travel and peak times is the same, the Travel Time Index value is 1.0. The New York metropolitan region has a Travel Time Index value of 1.35; in essence, it takes 35 percent longer on average to make a trip in the region during peak period than in free-flow conditions.³¹

Despite the reliance on transit, Manhattan still has a much higher Travel Time Index value than the overall metropolitan region: 1.84 in the morning peak period and 2.07 in the evening peak period.^{32, 33} For a 20-minute trip in Manhattan, this translates to drivers having to assume it could take more than twice that time on average during the evening hours—this is time wasted on a regular basis because of congestion.

The Travel Time Index helps explain the average changes in travel time resulting from congestion. In the New York metropolitan region, not only is there ongoing, recurrent congestion, but there is also a wide range of variability, especially in congested periods.

Another way to look at congestion is through NYMTC's Travel-Time Reliability indicator. Again, a ratio that is close to 1.0 demonstrates little variability throughout the day and from day to day. A higher number means travel time is more unpredictable, while a lower number means it is more predictable. In Manhattan, the daily level of travel-time reliability for all vehicle modes is 1.65 and for trucks it is 2.67, reflecting widely variable, and therefore unpredictable, travel times.³⁴

Finally, NYMTC also uses a Planning Time Index that represents the additional amount of time that drivers need to allow to reach their destination under most conditions. In Manhattan, to arrive at a destination on time, drivers regularly need to assume that their trip could take more than four times what it would during free-flow periods.³⁵

How Long Will My Trip Take

When an area is prone to traffic congestion, travelers must add travel time or they risk being late to their destination.

This added time is compounded if the congestion is not just recurring, but also unreliable, with wide variability during the day, and from day to day. Drivers must plan for both regular congestion due to traffic volumes, and for the likelihood that there could be even more congestion as a result of weather, construction, or an incident. This additional time for the trip adds up significantly, especially in Manhattan.

Every day, drivers in Manhattan need to assume that the time they need for what should be a 20-minute trip could take them up to 87.2 minutes.

Source:

New York Metropolitan Transportation Council. September 2021. 2021 Congestion Management Process Status Report. <https://www.nymtc.org/Portals/0/Pdf/CMP%20Status%20Report/2021%20CMP/NYMTCCMP%20Adopted%20Report.pdf?ver=gfVbMzvLLqENvn1jNkOhg%3d%3d>

³¹ NYMTC. 2021. *Congestion Management Process Status Report*. September 9, 2021. <https://www.nymtc.org/Portals/0/Pdf/CMP%20Status%20Report/2021%20CMP/NYMTCCMP%20Adopted%20Report.pdf?ver=gfVbMzvLLqXENvn1jNkOhg%3d%3d>.

³² Ibid.

³³ The Manhattan CBD generates a substantial number of trips to the island and contributes greatly to the overall indicator; thus, it is a useful, if understated, indicator for the Manhattan CBD.

³⁴ NYMTC. September 2021. *2021 Congestion Management Process Status Report*. <https://www.nymtc.org/Portals/0/Pdf/CMP%20Status%20Report/2021%20CMP/NYMTCCMP%20Adopted%20Report.pdf?ver=gfVbMzvLLqXENvn1jNkOhg%3d%3d>.

³⁵ Ibid.

NYCDOT, MTA, and other transportation agencies have implemented programs to increase mobility and improve accessibility in the Manhattan CBD by nonvehicular modes and to reduce vehicular congestion (see **Section 1.1**). Despite these various initiatives that should reduce vehicular traffic in the Manhattan CBD, congestion persists.

The low travel speeds and unreliable travel times to, from, and within the Manhattan CBD increase auto commute times, erode worker productivity, reduce bus and paratransit service quality, raise the cost of deliveries and the overall cost of doing business, and delay emergency vehicles (**Figure 1-9**).

1.4.2 The Need to Create a New Local, Recurring Funding Source for MTA's Capital Projects

In the past five decades, state and city officials along with other stakeholder groups have studied various concepts for addressing traffic congestion in the Manhattan CBD. Sustained investment in public transportation is one strategy consistently identified in those studies.

Figure 1-9. Typically Congested Streets in Lower Manhattan During the Evening Rush (Summer 2022)



Source: MTA

The importance of transit to New York City's overall economy cannot be overstated. As the primary mode of travel to the Manhattan CBD, continued investment in transit is critical to mobility and accessibility of the Manhattan CBD and the region. More than 75 percent of all trips, and 85 percent of commuter trips, into the Manhattan CBD are made by bus, subway, commuter rail, or ferry.^{36, 37} MTA subways served 1.7 billion passengers in 2019, and MTA buses carried 677.6 million passengers, providing access to employment, healthcare, education and the full range of services and entertainment options available throughout New York. The 10 busiest subway stations in the MTA system are in the Manhattan CBD, and two of the 10 busiest MTA bus routes are in or serve the Manhattan CBD.³⁸ LIRR and Metro-North were the busiest commuter rail systems in the United States in terms of average weekday ridership in 2021.³⁹ MTA alone employs approximately 70,000 people (making it one of the largest individual employers in New

³⁶ NYMTC. January 2021. *Hub Bound Travel Data Report 2019*. https://www.nymtc.org/Portals/0/Pdf/Hub%20Bound/2019%20Hub%20Bound/DM_TDS_Hub_Bound_Travel_2019.pdf?ver=GS5smEoyHSsHsyX_t_Zriw%3d%3d.

³⁷ U.S. Census Bureau, 2012–2016 Census Transportation Planning Package.

³⁸ Metropolitan Transportation Authority Subway and Bus Ridership for 2019. <https://new.mta.info/coronavirus/ridership>. Bus ridership reflects the total annual reported numbers for New York City Transit and MTA Bus Company.

³⁹ APTA. "Public Transportation Ridership Report: Fourth Quarter 2021." <https://www.apta.com/wp-content/uploads/2021-Q4-Ridership-APTA.pdf>.

York State, and larger than the population of many small cities). Through its capital spending, MTA annually injects billions of dollars into the local economy both through major infrastructure projects and day-to-day operations and maintenance programs, indirectly supporting thousands of additional jobs.

Although there was high demand for service, the reliability of MTA's commuter rail, subway, and bus system declined beginning in 2010.⁴⁰ MTA documented commuter rail, subway, and bus service delays, which received much public attention.⁴¹ Beginning in 2017, MTA's operating agencies engaged in projects to address some root causes of declining service and implemented improvements to commuter rail and subway infrastructure. As documented in MTA's 2020–2024 Capital Program, these projects resulted in substantial reductions in delay and improvements in on-time performance.⁴²

Notwithstanding these improvements, elements of MTA's commuter rail and subway system are more than 100 years old, and essential capital needs remain to ensure a state of good repair and to bring MTA's transit and rail assets into the 21st century. The 2020–2024 Capital Program is intended to “build on these achievements, ensuring that the improvements put in place will be sustainable for years to come.”⁴³ The program identifies \$52.0 billion of investments⁴⁴ in the region's subways, buses, and commuter railroads. Key tenets of the 2020–2024 Capital Program include the following:

- Investing to improve reliability
- Committing to environmental sustainability
- Building an accessible transit system for all New Yorkers
- Easing congestion and creating growth
- Improving safety and customer service through technology⁴⁵

The continued modernization of MTA's commuter rail, subway, and bus network is necessary to create a faster, more accessible, and more reliable transportation network for the New York City region's residents, commuters, and visitors. The MTA 2020–2024 Capital Program calls for extensive improvements throughout the MTA integrated transportation network. While some capital projects will expand the

⁴⁰ MTA New York City Transit. September 23, 2011. *Evaluation of 2010 Service Reductions*. http://web.mta.info/mta/news/books/docs/NYCT_2010_Service_Reduction_Evaluation.pdf.

⁴¹ Adrienne LaFrance. July 13, 2017. *The Atlantic*, “The Awful Decline of the New York City Subway System.” <https://www.theatlantic.com/technology/archive/2017/07/when-did-new-york-citys-subway-get-so-bad/533502/>.

⁴² Metropolitan Transportation Authority (MTA). October 1, 2019. *2020–2024 Capital Program: Executive Summary*. <https://new.mta.info/sites/default/files/2019-09/MTA%202020-2024%20Capital%20Program%20-%20Executive%20Summary.pdf>.

⁴³ Ibid.

⁴⁴ This reflects the portion of the capital program that will fund transit improvements; it includes an additional \$254 million for other transit projects not identified here, as well as a December 2021 amendment that increased the transit- and rail-related portion of the program by \$535 million. The full capital program, including non-transit improvements, includes \$55.3 billion in projects.

⁴⁵ Metropolitan Transportation Authority. October 1, 2019. *2020–2024 Capital Program: Executive Summary*. <https://new.mta.info/sites/default/files/2019-09/MTA%202020-2024%20Capital%20Program%20-%20Executive%20Summary.pdf>.

system, many others will ensure the long-term viability of current assets to address the deficiencies described previously.

MTA draws funding from several sources. MTA-controlled revenues include commuter rail, subway, and bus fares, and tolls at TBTA crossings; state and local subsidies that include dedicated state taxes (e.g., petroleum business taxes, sales tax, payroll mobility tax, motor vehicle registration and license fees, taxi and FHV fees, real estate transaction taxes on both residential and commercial properties); and station maintenance payments. The Federal government supports MTA transit and commuter capital projects through formula grants, full-funding grant agreements, and other funding programs, primarily through the Federal Transit Administration and the Federal Railroad Administration.

MTA uses these funds to make long-range capital improvements to the system's infrastructure, to expand the system, and to operate its integrated transportation network. However, there is a history of gaps in funding when economic conditions reduce the tax base; when the Federal, state, or local governments reduce subsidies; and when the cost of needed transit improvements exceeds the available funding.

Existing funding sources are insufficient to pay for the transit improvement and modernization projects identified in the MTA 2020–2024 Capital Program and subsequent capital programs that are needed for subway, bus, and commuter rail services. The New York State Legislature passed the MTA Reform and Traffic Mobility Act to provide stable and reliable funding to repair and revitalize the regional transit system.⁴⁶

1.5 PROJECT OBJECTIVES

FHWA and the Project Sponsors have established the following objectives to further refine the Project purpose and address the needs described above:

- Reduce daily vehicle-miles traveled (VMT) within the Manhattan CBD.
- Reduce the number of vehicles entering the Manhattan CBD daily.
- Create a funding source for capital improvements and generate sufficient annual net revenues to fund \$15 billion for capital projects for the MTA Capital Program.
- Establish a tolling program consistent with the purposes underlying the New York State legislation entitled the "MTA Reform and Traffic Mobility Act."⁴⁷

⁴⁶ Consolidated Laws of the State of New York, Vehicle and Traffic, Title 8, Article 44-C Sections 1701 through 1706.

⁴⁷ Refer to Appendix 2B, "Project Alternatives: MTA Reform and Traffic Mobility Act."

1.6 PROJECT SCHEDULE

Table 1-1 shows anticipated milestone dates for Project implementation.

Table 1-1. Project Schedule

ACTIVITY/MILESTONE	ANTICIPATED DATE
Early public engagement	Fall 2021
Publication of Environmental Assessment (EA)	August 2022
Public review of EA, including public hearing and acceptance of public comments on the EA	August–September 2022
[Ongoing engagement with the Environmental Justice Technical Advisory Group]	[October 2022–January 2023]
Federal Highway Administration decision	[May] 2023
Project Implementation	2023

* Refer to Chapter 18, “Agency Coordination and Public Participation.”

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2. Project Alternatives

2.1 INTRODUCTION

NEPA requires Federal agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.”¹ The NEPA regulations promulgated by the Council on Environmental Quality in 2022 at 40 Code of Federal Regulations (CFR) Parts 1500–1508 require that EAs include a discussion of alternatives as required by NEPA (40 CFR Section 1502.14(b)). This chapter describes the previous studies and concepts that were considered prior to 2019 to address congestion in the Manhattan CBD, the preliminary alternatives that FHWA and the Project Sponsors assessed for the CBD Tolling Program (the Project), and the screening evaluation of these preliminary alternatives. Following that discussion, **Section 2.4** of this chapter provides information on the two alternatives that are evaluated in detail in this EA: the No Action Alternative and the CBD Tolling Alternative.

2.2 PREVIOUS STUDIES AND CONCEPTS CONSIDERED

For many years, State and City of New York officials and stakeholder and advocacy groups have identified traffic congestion in Manhattan as a concern that adversely affects the economy, environment, quality of life, and public health of New York City and the region. Many of these groups also identified a need for an ongoing, reliable source of funding for MTA. Consequently, there have been a number of studies to identify concepts for addressing the congestion, including introducing tolls. These studies include the following:

- Local congestion management measures as part of New York State’s State Implementation Plan to comply with the Federal Clean Air Act (1973), which included tolls on the bridges across the East River and Harlem River to reduce vehicular traffic²
- PlaNYC (2007), a long-term plan for New York City proposed by Mayor Bloomberg that included a congestion pricing proposal for the area of Manhattan south of 86th Street³
- New York City Traffic Congestion Mitigation Commission Study (2008), which recommended a modified version of the PlaNYC concept, with the northern boundary of the tolling zone at 60th Street so that

¹ 42 United States Code (USC) 4321 Section 102(E).

² Plan prepared by then-New York State Governor Nelson Rockefeller and then-New York City Mayor John Lindsay for submission to the U.S. Environmental Protection Agency.

³ The City of New York, Mayor Michael R. Bloomberg. *PlaNYC: A Greener, Greater New York*. April 2007. http://www.nyc.gov/html/planyc/downloads/pdf/publications/full_report_2007.pdf. See p. 88.

the new toll would apply to more intra-Manhattan trips, thereby further reducing congestion and increasing revenue potential⁴

- Move NY Fair Plan (2015), a plan proposed by a citizens' group that involved tolling the area of Manhattan south of 60th Street and adjusting tolls elsewhere in New York City⁵
- Fix NYC Advisory Panel (2018), which recommended a tolling program for the area of Manhattan south of 60th Street as well as other measures to address congestion⁶
- Metropolitan Transportation Sustainability Advisory Workgroup (2018), which focused on actions to improve the region's transportation system, including addressing traffic congestion and identifying sources of sustainable funding for the region's public transit system, and recommended congestion pricing for the area of Manhattan south of 60th Street⁷

Appendix 2A, "Project Alternatives: Previous Studies and Concepts Considered," provides more information on these previous studies.

2.3 PRELIMINARY ALTERNATIVES AND THEIR CONSISTENCY WITH THE PROJECT'S PURPOSE AND OBJECTIVES

FHWA oversees projects throughout the United States that are intended to reduce congestion through "congestion pricing." FHWA's website notes that "Congestion pricing recognizes that trips have different values at different times and places and for different individuals. Faced with premium charges during periods of peak demand, road users are encouraged to eliminate lower-valued trips, take them at a different time, or choose alternative routes or transport modes where available."⁸

⁴ The New York City Traffic Congestion Mitigation Commission was a 17-member body appointed by the governor based on recommendations from the New York City mayor and leaders in the New York State Assembly, New York State Senate, and New York City Council. The chair of the commission was Marc V. Shaw, who had previously served as a Deputy Mayor of New York City and Executive Director of MTA. https://www.dot.ny.gov/programs/congestion_mitigation_commission. New York City Traffic Congestion Mitigation Commission. *Report to the Traffic Congestion Mitigation Commission & Recommended Implementation Plan*. January 31, 2008.

https://www.dot.ny.gov/programs/congestion_mitigation_commission/final-recommendation.

⁵ Move New York is a coalition of stakeholders representing business associations, trade unions, religious and civic leaders, transportation and environmental advocates, good-governance organizations, and elected officials. The group is led by Alex Matthiessen, president of an environmental consulting firm; Sam Schwartz, PE, the founder of a traffic engineering firm; and Eduardo Castell, a political advisor. Move NY. *Move New York Fair Plan*. February 2015. <https://www.samschwartz.com/move-ny-fair-plan/>

⁶ Then-New York State Governor Andrew M. Cuomo created this panel in October 2017, consisting of community representatives, government officials, and business leaders from across the New York City region. Fix NYC Advisory Panel. *Fix NYC Advisory Panel Report*. January 2018. <https://www.hntb.com/fix-nyc-report/>

⁷ The New York State Legislature created this workgroup, chaired by Kathryn Wylde, President and CEO of the Partnership for New York, and comprising government officials, transportation professionals, and representatives of business and commuter interest groups, as part of the fiscal year 2019 New York State budget. Metropolitan Transportation Sustainability Advisory Workgroup. *Metropolitan Transportation Sustainability Advisory Workgroup Report*. December 2018. <https://pfnyc.org/wp-content/uploads/2018/12/2018-12-Metropolitan-Transportation-Sustainability-Advisory-Workgroup-Report.pdf>.

⁸ <https://ops.fhwa.dot.gov/congestionpricing/index.htm>.

Congestion pricing strategies can involve projects that use tolls to manage congestion as well as projects that do not involve tolls. Such strategies include the following:⁹

- **High-Occupancy Toll (HOT) Lanes** involve designating lanes on highways for high-occupancy vehicles only and allowing vehicles with fewer people than required to pay a toll to use the lane. This strategy provides an uncongested alternative for travelers who carpool or pay the toll, and may reduce congestion in the remaining lanes.
- **Express Toll Lanes** are similar to HOT lanes and involve providing a lane designated for vehicles that pay a toll. Tolling is variable to allow effective time-of-day tolling.
- **Pricing on Full Roadways** involves the use of variable tolls on highways, bridges, and/or tunnels to reduce congestion during peak periods.
- **Zone-Based Pricing, including Cordon and Area Pricing** involves either variable or fixed charges to drive within or into a congested area within a city. This type of project has been successfully implemented in London, Stockholm, and Singapore.
- **Regionwide Pricing** involves pricing at several locations in a region.
- **Parking Pricing** consists of parking policies to influence the decision to drive, including variable pricing of curbside parking, commuter parking taxes, and employer incentive programs that offer employees cash rather than the use of employer-provided parking.
- **Priced Vehicle Sharing and Dynamic Ridesharing** involve setting up a ridesharing system, typically by a commercial vendor, to allow customers to use a vehicle only when needed and without owning a car.
- **Pay as You Drive (Making Vehicle Use Costs Variable)** involves a range of different approaches to correlate charges associated with operating a vehicle to the miles driven, thus providing an incentive to drive less.

In consideration of these potential strategies, and in light of the purpose, need, and objectives for this Project, FHWA and the Project Sponsors evaluated the 12 preliminary alternatives described in **Table 2-1**, which included multiple proposals for congestion management described in **Section 2.2** and **Appendix 2A, "Project Alternatives: Previous Studies and Concepts Considered."** One of the alternatives evaluated is the introduction of a vehicular tolling program consistent with the 2019 New York State legislation entitled the MTA Reform and Traffic Mobility Act (Traffic Mobility Act), the program known as the CBD Tolling Program.

⁹ https://ops.fhwa.dot.gov/congestionpricing/cp_what_is.htm.

Chapter 2, Project Alternatives

Chapter 2, Project Alternatives

Table 2-1. Preliminary Alternatives Considered

TYPE OF ALTERNATIVE	ALTERNATIVE	DESCRIPTION
No Action Alternative Required by NEPA as the benchmark to which the build alternative(s) are compared	NA-1: No Action	The No Action Alternative would not implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD. The No Action Alternative would not meet the Project purpose and objectives; NEPA regulations require that it be evaluated and serve as the baseline condition against which the potential effects of the build alternative (i.e., the CBD Tolling Alternative) are evaluated. Under the No Action Alternative, existing policies and programs would continue, and planned transportation, policy, and development initiatives that are independent of the CBD Tolling Program would be implemented.
Non-Toll Pricing (NTP) Alternatives Alternatives that use types of pricing mechanisms other than tolling	NTP-1: Parking pricing strategies	This alternative would take one or more of several forms, including elimination of the resident exemption for the parking tax or raising of the tax, increased rates for metered on-street parking, and/or introduction of an overnight on-street parking fee.
Toll (T) Alternatives Alternatives that use different types of tolling mechanisms	T-1: Pricing on full roadways: Raise tolls or implement variable tolls on existing toll facilities	This alternative would raise tolls or implement variable tolls on existing toll facilities.
	T-2: Pricing on full roadways: Toll East and Harlem River bridges	This alternative would establish a toll on the currently untolled East River and Harlem River crossings to Manhattan.
	T-3: High-occupancy toll (HOT) lanes	This alternative would create HOT lanes for passenger cars on major crossings into Manhattan and highways leading to the Manhattan CBD.
	T-4: Zone-based pricing: CBD Tolling Program	This alternative would toll vehicles entering or remaining in the Manhattan CBD, south of and inclusive of 60th Street, excluding the West Side Highway/Route 9A and the Franklin D. Roosevelt (FDR) Drive.
Other (O) Alternatives Alternatives that use methods other than pricing or tolling to reduce congestion	O-1: Parking pricing: Reduce government-issued parking permits	This alternative would reduce the number of permits that provide free on-street parking for government employees commuting to jobs in Manhattan.
	O-2: Provide additional taxi stands to reduce cruising	This alternative would provide additional taxi stands and require that passengers be picked up at designated taxi stands.
	O-3: Create incentives for teleworking	This alternative would create incentives for teleworking to reduce the number of trips made to the Manhattan CBD.
	O-4: Ration license plates	This alternative would prohibit vehicles from entering the Manhattan CBD on certain days based on license plate number.
	O-5: Mandatory carpooling	This alternative would prohibit single-occupant vehicles from entering Manhattan south of 60th Street weekdays, 6 a.m. to 10 a.m.
	O-6: Truck time-of-day restrictions	This alternative would restrict trucks to overnight deliveries.

FHWA and the Project Sponsors used the Project purpose, need, and three of the four objectives presented in **Chapter 1, "Introduction,"** to conduct a screening evaluation of the preliminary alternatives, so as to establish a reasonable range of alternatives for further study, consistent with NEPA requirements. Given the importance of congestion reduction, the first two objectives relate to the need to reduce congestion while the third objective ties to creating a funding source for capital improvements. Together, the objectives used for screening were as follows:

- Objective 1: Reduce daily vehicle-miles traveled (VMT) within the Manhattan CBD.
- Objective 2: Reduce the number of vehicles entering the Manhattan CBD daily.
- Objective 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund \$15 billion for capital projects for the MTA Capital Program.

FHWA and the Project Sponsors did not use the fourth Project goal, "Establish a tolling program consistent with the purposes underlying the New York State legislation entitled the 'MTA Reform and Traffic Mobility Act'" for screening of alternatives.

If, through the screening evaluation, FHWA and the Project Sponsors determined that a preliminary alternative would not meet one or more of the three Project objectives used for screening, they dismissed that alternative from further consideration as an alternative that is not reasonable. As noted in **Table 2-2**, the Project Sponsors established quantitative criteria consistent with the evaluation results for best-performing options in prior proposals,¹⁰ for determining the consistency of preliminary alternatives with the two congestion-related Project objectives.

- For Objective 1, the evaluation used a reduction of 5 percent relative to the No Action Alternative as the quantitative screening criterion because it represents a meaningful reduction in VMT. Since VMT incorporates the number of vehicles as well as the distance they travel, changes in VMT would be smaller than changes in the number of vehicles.
- For Objective 2, the evaluation used a reduction of 10 percent relative to the No Action Alternative as the quantitative screening criterion because it represents a meaningful reduction in the number of vehicles. As noted, the reduction in the number of vehicles is expected to be larger than the reduction in VMT.

As shown in **Table 2-2**, and the explanatory notes below it, only Alternative T-4 (Zone-based pricing through the CBD Tolling Program) would meet the purpose for the Project and the screening criteria tied to the objectives. Consequently, Alternative T-4, the CBD Tolling Program, is the only reasonable build alternative and the only build alternative evaluated in detail in this EA.

¹⁰ See, for example, The City of New York, Mayor Michael R. Bloomberg. *PlaNYC: A Greener, Greater New York*. April 2007. http://www.nyc.gov/html/planyc/downloads/pdf/publications/full_report_2007.pdf and New York City Traffic Congestion Mitigation Commission. *Report to the Traffic Congestion Mitigation Commission & Recommended Implementation Plan*. January 31, 2008.

Table 2-2. Results of Preliminary Alternatives Screening¹

ALTERNATIVE	PURPOSE AND NEED: Reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements	OBJECTIVE 1: Reduce daily VMT within the Manhattan CBD Criterion: Reduce by 5 (relative to No Action)	OBJECTIVE 2: Reduce the number of vehicles entering the Manhattan CBD daily Criterion: Reduce by 10 (relative to No Action)	OBJECTIVE 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund 15 billion for capital projects for MTA's Capital Program
NA-1: No Action	Does not meet	Does not meet	Does not meet	Does not meet
NTP-1: Parking pricing strategies	Does not meet	Does not meet (see note 2)	Does not meet	Does not meet (see note 2)
T-1: Pricing on full roadways: Raise tolls or implement variable tolls on existing toll facilities	Does not meet	Does not meet (see note 3)	Does not meet (see note 3)	Does not meet
T-2: Pricing on full roadways: Toll East and Harlem River bridges	Does not meet (see note 4)	Meets	Meets	Does not meet (see note 4)
T-3: High-occupancy toll (HOT) lanes	Does not meet (see note 5)	Does not meet	Does not meet	Does not meet (see note 5)
T-4: Zone-based pricing: CBD Tolling Program	Meets	Meets	Meets	Meets
O-1: Parking pricing: Reduce government-issued parking permits	Does not meet	Does not meet (see note 1)	Does not meet (see note 1)	Does not meet
O-2: Provide additional taxi stands to reduce cruising	Does not meet	Does not meet (see note 1)	Does not meet	Does not meet
O-3: Create incentives for teleworking	Does not meet	Does not meet	Does not meet (see note 1)	Does not meet
O-4: Ration license plates	Does not meet	Meets	Meets	Does not meet
O-5: Mandatory carpooling	Does not meet	Meets	Meets	Does not meet
O-6: Truck time-of-day delivery restrictions	Does not meet	Does not meet (see note 1)	Does not meet (see note 1)	Does not meet

Notes for Table 2-2

- ¹ Screening was based on a variety of prior studies and documents, including the following: New York City Traffic Congestion Mitigation Commission, "Congestion Mitigation Strategies: Alternatives to the City's Plan" (December 10, 2007); and "Report to the Traffic Congestion Mitigation Commission Recommended Implementation Plan" (January 31, 2008), and its appendices, including Cambridge Systematics, Inc., "Technical Memorandum: Telecommuting Incentives," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Night Delivery Incentives," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Congestion Reduction Policies Involving Taxis," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Increase Cost of Parking in the Manhattan Central Business District (CBD)," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007).
- ² For NTP-1: [ehicle miles traveled VMT] reduction was estimated at substantially less than 1 percent. Further, there is no law or agreement in place between the City of New York and MTA that would direct the revenue generated from this alternative to MTA to support the Capital Program.
- ³ For T-1: This alternative would generate revenue, but the annual net revenues would not be sufficient to fund \$15 billion for capital projects for MTA's Capital Program. The revenue as well as reduction in VMT and number of vehicles with this alternative depends on how high the toll is raised and whether tolls are increased only on TBTA facilities or both TBTA and Port Authority of New York and New Jersey facilities. However, with some crossings remaining untolled, traffic would divert to untolled facilities, thereby reducing the revenue and not reducing traffic. Further, this alternative would not target congestion in the Manhattan CBD, given that a number of free entry points to the Manhattan CBD would remain available.
- ⁴ For T-2: Earlier studies showed this alternative would reduce congestion and could raise toll revenues equivalent to Project objectives. However, there is no law or agreement in place between the City of New York and MTA that would direct the revenue to MTA to support the Capital Program. [n addition the 200 ew or City Traffic Congestion Mitigation Commission tudy identified a number of disadvantages to this alternative including that this alternative would not address trips that start and end within Manhattan such as trips beginning or ending on the pper East ide and pper est ide and that this alternative would adversely affect local trips between the outh Bron and arlem ashington eights which could result in a local adverse economic impact in two environmental justice communities]
- ⁵ For T-3: HOT Lanes can be effective revenue generators, but their ability to reduce congestion and raise enough revenue to meet the target is limited due to the availability of free lanes on the same highway.
- ⁶ [or O Earlier studies concluded that reducing par ing placards issued to government employees would reduce MT south of th treet by 0 to 0.3 percent depending on the si e of the reduction reductions evaluated ranged from 3 000 to 0 000 placards ith this level of MT reductions this alternative also would not reduce the number of vehicles entering the Manhattan CB enough to meet the ro ect ob ective]
- ¹¹ For O-2: Provision of additional taxi stands would have no effect on the number of taxis entering the Manhattan CBD and would not necessarily reduce VMT since taxis would need to travel back to a taxi stand after discharging customers. Further, this alternative would not broadly address VMT for all vehicles, nor would it reduce the number of vehicles entering the Manhattan CBD.
- ¹¹ For O-3: Earlier studies concluded that this alternative would reduce New York City commute trips by less than 2 percent. Recent experience with the COVID-19 pandemic has supported that conclusion. As the region returns to normal business activities, following large-scale, full-time teleworking, many office workers are continuing to telework, but traffic levels are returning to close to pre-COVID-19 pandemic levels (for more information, see Chapter 1, "Introduction," Section 1.4.1). With such minimal impact, even combining this alternative with others like NTP-1 or O-2 would not yield congestion reductions and new revenue to meet the Project's purpose, need and objectives.
- ¹¹ For O-6: To be successful, truck time-of-day restrictions would require receivers to be open and willing to receive the vehicles in overnight hours. Further, depending upon how the restrictions are implemented, some large trucks might instead send multiple small trucks, thereby increasing vehicle numbers and VMT.

2.4 DESCRIPTION OF ALTERNATIVES STUDIED IN DETAIL IN THIS ENVIRONMENTAL ASSESSMENT

NEPA regulations require that the No Action Alternative be evaluated and serve as the baseline condition against which the potential effects of the build alternative are assessed. Thus, this EA evaluates two alternatives: the No Action Alternative (in which the CBD Tolling Program is not implemented) and the CBD Tolling Alternative (in which a congestion pricing program consistent with the Traffic Mobility Act, the CBD Tolling Program, is implemented).

2.4.1 No Action Alternative

The No Action Alternative would not implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD.

Under the No Action Alternative, existing policies and programs would continue and proposed initiatives would be implemented. Some of the notable measures include the following:

- The current cap on the number of FHV licenses in New York City would remain in effect.
- The two-way, protected bicycle lanes that NYCDOT implemented in fall 2021 on the Brooklyn Bridge would remain. These bicycle lanes replaced one inbound traffic lane. With the bicycle lanes in place, the upper-level shared-use path would be only for pedestrian use.¹¹
- At the Ed Koch Queensboro Bridge, NYCDOT would convert a traffic lane to a pedestrian walkway on the bridge's lower level, and the existing shared-use path on the north side of the lower level would be only for bicycle use.
- NYCDOT would continue the configuration it implemented in August 2021 for the Brooklyn-Queens Expressway, which reduced the highway from three lanes to two lanes in each direction between Atlantic Avenue and the Brooklyn Bridge, and would initiate repairs to the roadway's bridges and structures between Atlantic Avenue and Sands Street.¹²
- The Port Authority of New York and New Jersey (PANYNJ) would implement "open-road" cashless tolling at the George Washington Bridge and Lincoln Tunnel, in which tolls are collected using overhead readers, with no toll booths or attendants.
- MTA would continue to implement transit improvement projects in its 2020–2024 Capital Program, based on the amount of funding available.
- NYCDOT and other New York City agencies would continue programs established as part of the public response to the COVID-19 pandemic to improve accessibility to open spaces. This includes the closure of certain sections of streets to vehicular traffic ("Open Streets") and the use of curbside parking lanes for outdoor dining ("Open Restaurants").

¹¹ The travel demand modeling conducted for this EA and described in Subchapter 4A, "Transportation: Regional Transportation Effects and Modeling," included the bicycle lanes as part of the No Action Alternative but not the existing condition.

¹² Ibid.

- NYCDOT would continue to develop bicycle and bus infrastructure including new bicycle and bus lanes.¹³

With the No Action Alternative, existing tolls at bridges and tunnels connecting to Manhattan that are managed by TBTA and the PANYNJ would remain in effect. (See **Chapter 4, “Transportation,” Section 4.1** for more information on current tolls.) In the No Action Alternative, East River and Harlem River crossings—most of which are under the control of NYCDOT—would remain untolled.

2.4.2 CBD Tolling Alternative

2.4.2.1 Overview

The CBD Tolling Alternative would implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD, consistent with the Traffic Mobility Act.¹⁴ After covering Project-related capital and operating expenses, the revenue collected would fund projects in the MTA 2020–2024 Capital Program and successor capital programs.

The Manhattan CBD consists of the geographic area of Manhattan south and inclusive of 60th Street, but not including Franklin D. Roosevelt Drive (FDR Drive), West Side Highway/Route 9A, the Battery Park Underpass, and any surface roadway portion of the Hugh L. Carey Tunnel connecting to West Street (the West Side Highway/Route 9A). With the CBD Tolling Alternative, TBTA would toll vehicles entering or remaining in the Manhattan CBD via a cashless tolling system. The toll would apply to all registered vehicles (i.e., those with license plates) with the exception of qualifying vehicles transporting persons with disabilities and qualifying authorized emergency vehicles.^{15, 16} Passenger vehicles would be tolled no more than once a day.¹⁷ Vehicles that “remain” in the Manhattan CBD are vehicles that are detected when leaving, but were not detected entering in the same day. Given that they were detected leaving, they must have driven through the Manhattan CBD to get to the detection point, and therefore “remained” in it during a portion of the day. These vehicles would be charged that day for remaining in the Manhattan CBD.

¹³ New bicycle lanes and bus lanes were incorporated in the transportation modeling conducted for this EA and described in Subchapter 4A, “Transportation: Regional Transportation Effects and Modeling,” as appropriate.

¹⁴ The Traffic Mobility Act amended portions of certain New York State laws, including the Vehicle and Traffic Law, the Public Authorities Law, and the Tax Law. Appendix 2B, “Project Alternatives: MTA Reform and Traffic Mobility Act,” provides the amended text of those laws.

¹⁵ Qualifying authorized emergency vehicle is defined in Consolidated Laws of the State of New York, Vehicle and Traffic Law, Title 1, Article 1 Section 101. As currently *defined*, qualifying vehicles transporting persons with disabilities include vehicles with government-issued disability license plates and fleet vehicles owned or operated by organizations and used exclusively to provide transportation to people with disabilities.

¹⁶ The toll would not apply to vehicles that are not subject to registration requirements, such as bicycles, electric scooters, bicycles with electric assist (“e-bikes”).

¹⁷ Passenger vehicle is defined by Consolidated Laws of the State of New York, Vehicle and Traffic Law, Title 4, Article 14 Section 401(6).

Examples of how tolls would be applied for passenger vehicles include the following:

- If a passenger vehicle enters the Manhattan CBD on Monday morning and leaves Monday evening prior to midnight, it would be detected when it enters and when it leaves the Manhattan CBD. Because passenger vehicles would be charged only once daily, a single toll would be charged.
- If a passenger vehicle enters the Manhattan CBD on Monday and is parked until it leaves on Wednesday, it would be charged upon entering on Monday and for remaining when it drove through the Manhattan CBD on Wednesday to leave. This vehicle would not be charged when it was parked the full 24-hour period on Tuesday.
- If a passenger vehicle makes two round trips into the Manhattan CBD on the same day, it would be charged a single toll, because passenger vehicles would be charged only once daily.
- If a passenger vehicle is parked all week within the Manhattan CBD (for example, a vehicle owned by a resident of the Manhattan CBD) and then leaves the Manhattan CBD for a day trip on Saturday, the vehicle would be detected leaving (remaining) and re-entering the Manhattan CBD on the same day. Because passenger vehicles would be charged only once daily, a single toll would be charged on Saturday.
- If a passenger vehicle is parked all week within the Manhattan CBD (for example, a vehicle owned by a resident of the Manhattan CBD or a visitor to the Manhattan CBD) and then leaves the Manhattan CBD on Friday and returns on Monday, the vehicle would be identified as having remained on Friday since it was detected leaving; it would be identified as entering when it returns on Monday. It would receive a charge on Friday for remaining and on Monday for entering the Manhattan CBD. It would not be charged any other days when parked the entire day in the Manhattan CBD, nor the days when away.

Residents whose primary residence is inside the Manhattan CBD and whose New York adjusted gross income for the taxable year is less than \$60,000 would be entitled to a New York State tax credit equal to the aggregate amount of Manhattan CBD tolls paid during the taxable year.¹⁸ Residents of the Manhattan CBD with New York adjusted gross income of \$60,000 or higher would not be eligible for the tax credit.

The toll amount would vary by time of day, with higher tolls charged during peak periods when congestion is greater. The specific amounts of the tolls have not yet been determined, as discussed later in this chapter. In addition, certain types of vehicles would be exempt from the toll, and some vehicles that already pay tolls on crossings to and from the Manhattan CBD could receive crossing credits.

Consistent with the Traffic Mobility Act, the annual net revenues from the CBD Tolling Program would be sufficient to support a \$15 billion investment in the MTA Capital Program. MTA would use the net revenue

¹⁸ Consolidated Laws of the State of New York, Tax Law, Article 22, Section 606 (jjj).

generated by the CBD Tolling Program to fund transit and commuter rail projects in the MTA 2020–2024 Capital Program and successor programs.¹⁹ The funds would be allocated as follows:

- 80 percent to New York City subways and buses (New York City Transit, Staten Island Rapid Transit Operating Authority, and MTA Bus Company)
- 10 percent to Metro-North Railroad
- 10 percent to Long Island Rail Road

The MTA Capital Program is the culmination of MTA’s regular evaluation of the condition of its assets and its analysis of regional transportation needs and future travel demands. These assessments support the long-range capital planning process and lead to investment strategies that address safety, state of good repair, and capacity needs. Investments in MTA’s integrated transportation network would improve system reliability and accessibility, which would in turn attract new riders and further reduce vehicle demand for road capacity in and connecting to the Manhattan CBD.

To help define the CBD Tolling Program, the Traffic Mobility Act requires the TBTA Board to establish a Traffic Mobility Review Board with six members representing the region who have experience in public finance, transportation, mass transit, or management. The Traffic Mobility Review Board would recommend to the TBTA Board the toll amounts and toll structure, such as crossing credits, discounts, and/or exemptions for existing tolls paid on bridges and tunnels.²⁰ The variable pricing structure could vary by time of day, day of week, and day of year and could be different for different types of vehicles. Informed by the Traffic Mobility Review Board’s recommendation, the TBTA Board would approve and adopt a final toll structure following a public hearing in accordance with the State Administrative Procedure Act. The adopted TBTA plan would specify any crossing credits, discounts, and/or exemptions for tolls paid on bridges and tunnels; credits, discounts, and/or exemptions for taxis and/or FHV, which are already subject to surcharges pursuant to the Public Authorities Law; and any other additional potential crossing credits, discounts, and/or exemptions.²¹

The Traffic Mobility Review Board’s recommendation would be informed by the results of this EA, *which includes* a traffic study, and would consider such factors as traffic patterns, operating costs, public impact, and environmental impacts, including, but not limited to, air quality and emissions trends. The analysis in this EA is intended to identify the potential effects that may result from implementing the CBD Tolling Alternative, including any potential crossing credits, discounts, and/or exemptions. Therefore, this EA considers a range of tolling scenarios with different attributes to identify the range of effects that may occur.

Following implementation of the Manhattan CBD toll, the City of New York would prepare a study of the effects of the CBD Tolling Program on parking within and around the Manhattan CBD. Consistent with the

¹⁹ Net revenue refers to the balance of tolls, fees, and other revenues derived from the CBD Tolling Program, after payment of operating, administration, and other necessary expenses of TBTA, that are properly allocable to the CBD Tolling Program.

²⁰ In April 2018 the State of New York imposed a congestion surcharge on taxis and FHV trips that begin in, end in, or pass through Manhattan south of 96th Street. The Traffic Mobility Act requires the Traffic Mobility Review Board to examine potential CBD toll crossing credits, discounts, or exemptions for taxis and FHVs. The travel demand modeling conducted for this EA assumes that the taxi and FHV surcharge established by 2018 legislation will remain in effect with the CBD Tolling Alternative.

²¹ Consolidated Laws of the State of New York, Public Authorities Law, Article 5, Title 11 Section 1270-i.

Traffic Mobility Act, this study must be completed 18 months after toll collection commences. In addition, following implementation of the CBD Tolling Program, TBTA, in consultation with NYCDOT, would report on the effects of the CBD Tolling Program on traffic operations, taxi and FHV usage, mass transit usage, and air quality. TBTA and NYCDOT would report on these effects one year after tolling implementation and every two years thereafter.

2.4.2.2 Tolling Infrastructure and Tolling System Equipment

The CBD Tolling Alternative would include tolling infrastructure and tolling system equipment to detect vehicles. This would include poles and mast arms, similar to those used for streetlights and traffic lights today; tolling system equipment housed in enclosures; and signage similar in size and character to signs already present throughout Manhattan. Tolling system equipment would include reader and meter cabinets and cameras. Consistent with the Traffic Mobility Act, TBTA and NYCDOT have entered into a Memorandum of Understanding for coordinating the planning and design and, should the CBD Tolling Alternative be selected, the installation, construction, and maintenance of the Project's tolling infrastructure, including signage (see **Appendix 2C, "Project Alternatives: Memorandum of Understanding Between TBTA and NYCDOT"**). The following sections describe proposed locations for the tolling infrastructure and tolling system equipment and the types of infrastructure and equipment.

Location of Tolling Infrastructure and Tolling System Equipment

The new tolling system would include detection points to identify all vehicles entering or leaving the Manhattan CBD as well as verification points at certain locations along the West Side Highway/Route 9A and the FDR Drive.²² The poles for the CBD Tolling Alternative would be within the existing transportation right-of-way and would typically be at locations where standard poles are currently installed or would replace existing poles with new poles that are up to about 20 feet from the existing poles. In some locations, new poles would be installed where no poles currently exist. Where appropriate, tolling system equipment would be mounted on existing infrastructure (e.g., under pedestrian walkways and existing overhead sign infrastructure). At the Hugh L. Carey Tunnel and Queens-Midtown Tunnel, the existing tolling equipment would be used.

Based on preliminary design, tolling infrastructure and tolling system equipment would be installed at the following locations, with a total of 120 detection points:

- Near the 60th Street boundary to the Manhattan CBD, generally between 60th and 61st Streets, on all southbound and northbound roadways. This would include detection points close to 59th Street on the three access roads in Central Park that connect to 59th Street (Central Park South).
- At the exits from and entrances to all East River bridges (Brooklyn Bridge, Manhattan Bridge, Williamsburg Bridge, Ed Koch Queensboro Bridge, other than the ramp to 62nd Street) and tunnels under the jurisdiction of the PANYNJ (the Holland and Lincoln Tunnels) that connect to the Manhattan

²² Tolls would be charged for entering or remaining in the Manhattan CBD; detection points at exit locations would aid in identifying vehicles that have remained in the Manhattan CBD. Verification points along the West Side Highway/Route 9A and FDR Drive would be used to ensure that vehicles that remain on these roadways without entering the Manhattan CBD do not pay a toll.

- CBD. This would include detection points on the ramps leading to and from the bridges and tunnels as well as detection points on the East River bridge structures over land. At the TBTA tunnels that connect to the Manhattan CBD (Hugh L. Carey Tunnel and Queens-Midtown Tunnel), existing open-road tolling infrastructure would be used.
- Along the FDR Drive and the West Side Highway/Route 9A to identify vehicles that travel along those routes without entering the Manhattan CBD. These highway detection points would also aid in identifying vehicles that travel to locations on the east side of the FDR Drive (e.g., the Waterside apartment complex) and on the west side of the West Side Highway/Route 9A (e.g., Battery Park City or Hudson River Park) so that those vehicles are tolled.

Figure 2-1 illustrates the general locations where vehicles would pay the toll. Figure 2-2a through Figure 2-2j show in more detail the specific locations proposed for tolling infrastructure and tolling system equipment based on the preliminary design.

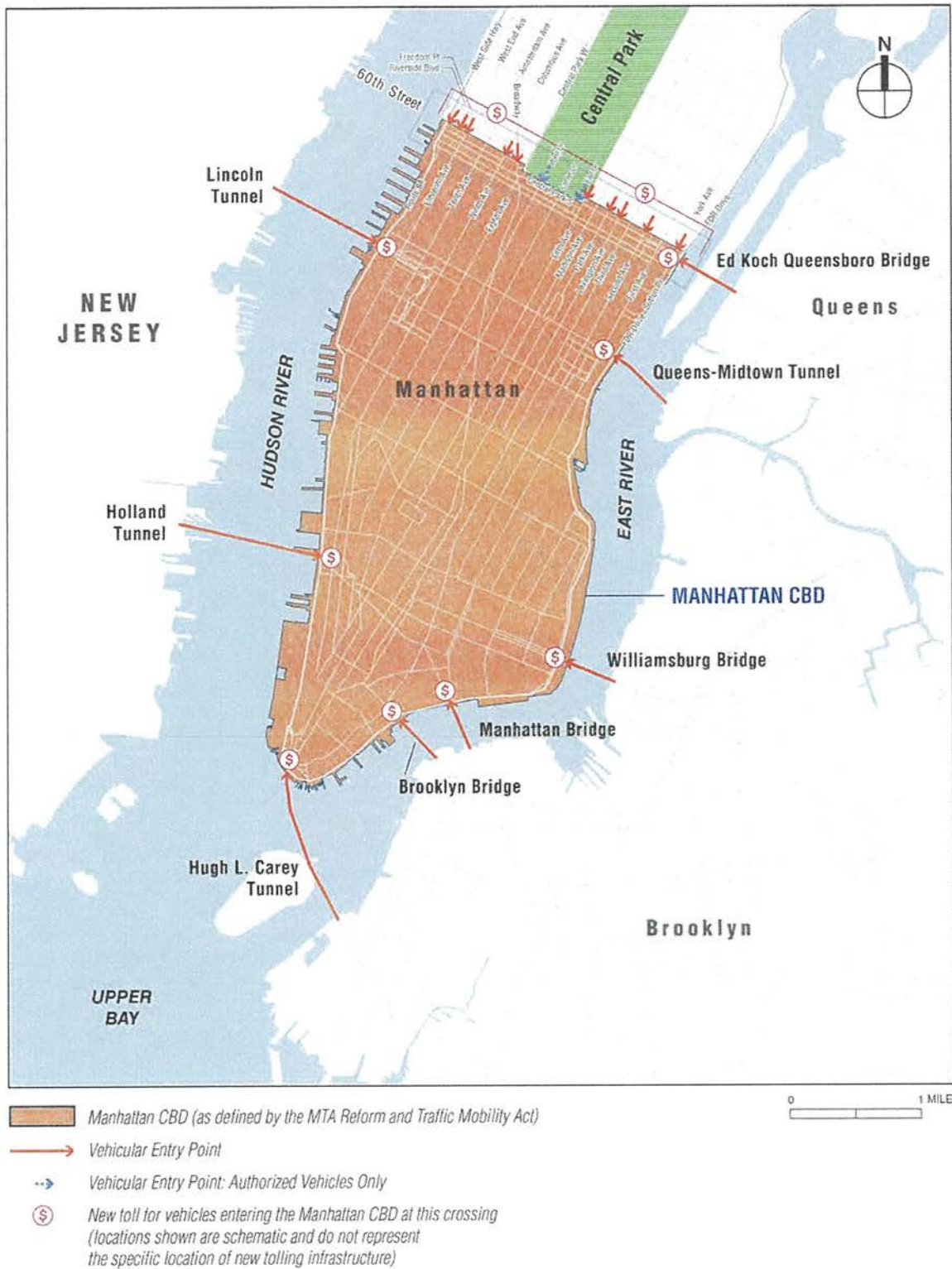
Types of Tolling Infrastructure and Tolling System Equipment

At each detection point, cameras and E-ZPass readers would be installed on tolling infrastructure in an arrangement that would allow capture of vehicle information from all traffic lanes. The proposed tolling system equipment would be clustered into single enclosures to reduce its visual impact. These enclosures would house the license plate reader cameras, illuminators, and antenna in a single unit comparable in size and mass to traffic control devices currently used throughout the area of visual effect. The cameras included in the array of tolling system equipment would use infrared illumination at night to allow images of license plates to be collected without the need for visible light.

Different tolling infrastructure would be used, depending on location, to minimize the Project footprint and reflect the existing setting. Based on preliminary design, this would include the following:

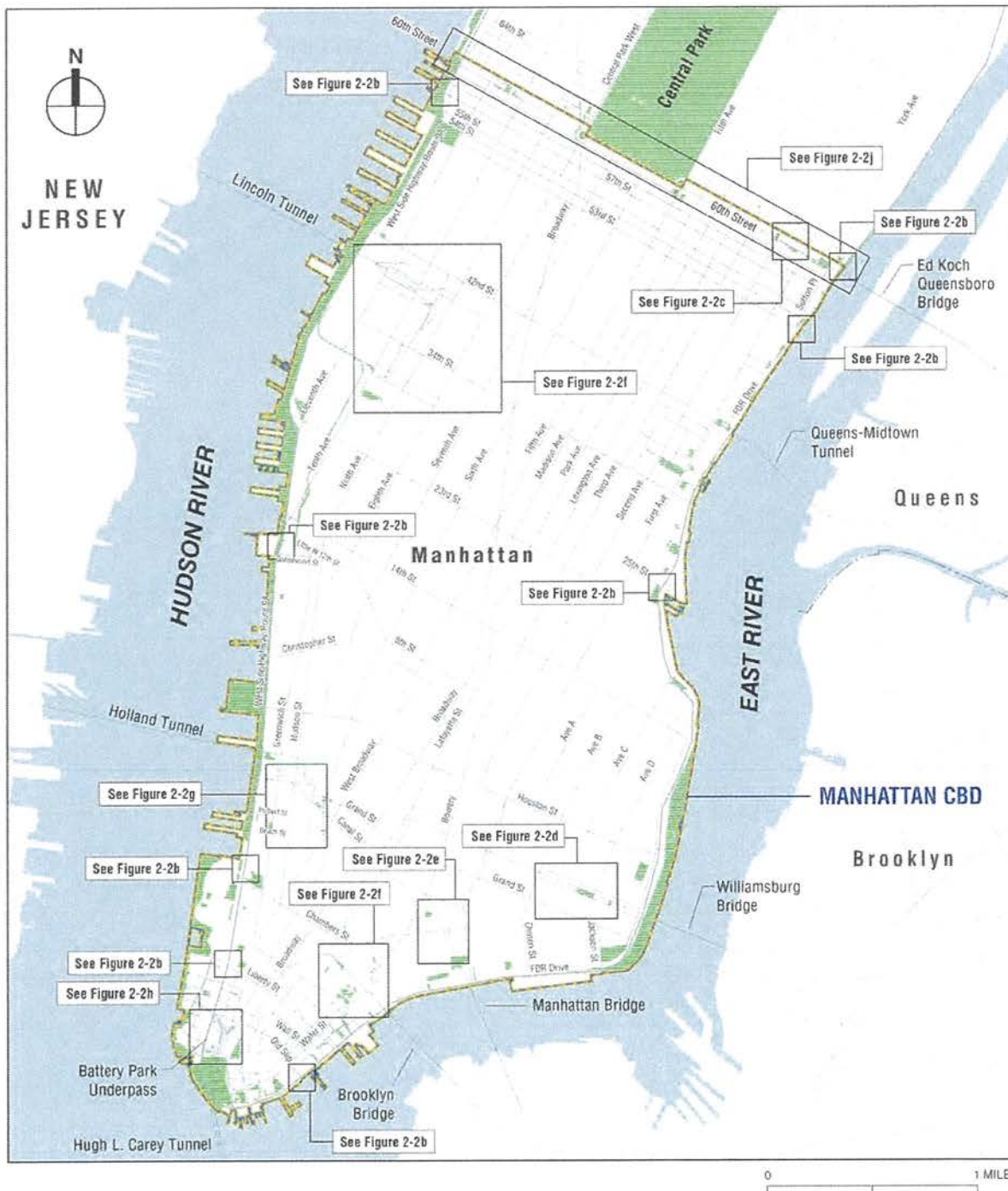
- **Modified NYCDOT M-2A poles at the curbside.** NYCDOT uses octagonal poles (M-2A poles) throughout New York City for traffic signals and streetlights. The CBD Tolling Alternative would install new poles that are similar in appearance to standard M-2A poles but would be larger in diameter (potentially up to 14 inches in diameter rather than 8.5 inches) to meet the critical structural performance requirements for mast-arm configurations. The modified M-2A poles would have larger foundations than a standard M-2A pole. From these poles, a new mast arm (similar to the mast arms that support traffic signals throughout New York City) would extend 20 to 50 feet over the roadway with tolling system equipment mounted on it. If an existing pole also supports a streetlight, then a streetlight would be provided on the replacement pole as well. The tolling system equipment mounted on mast arms would collect vehicle information from multiple lanes beneath the mast arm.
- **“Side fires” at the curbside.** In certain locations, tolling system equipment would be mounted on a standard M2-A pole without a mast arm, referred to as a “side fire.” The side-fire equipment would collect vehicle information from a single lane. Typically, this would occur at locations where a mast arm would be on one side of the street and a side fire on the other side of the street to allow full coverage of all lanes of the street.

Figure 2-1. General Locations of New Tolls for Vehicles Accessing the Manhattan CBD



Source: Department of Information Technology & Telecommunications. NYC Open Data, NYC Planimetrics.
<https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d>.

Figure 2-2a. Proposed Location of Tolling Infrastructure and Tolling System Equipment: Key Map



Sources: NYC Open Data, NYC Planimetrics, <https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d>; New York City Department of City Planning, BYTES of the BIG APPLE, <https://www1.nyc.gov/site/planning/data-maps/open-data.page>; ArcGIS Online, <https://www.arcgis.com/index.html>.

Figure 2-2b. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: West Side Highway/Route 9A and FDR Drive



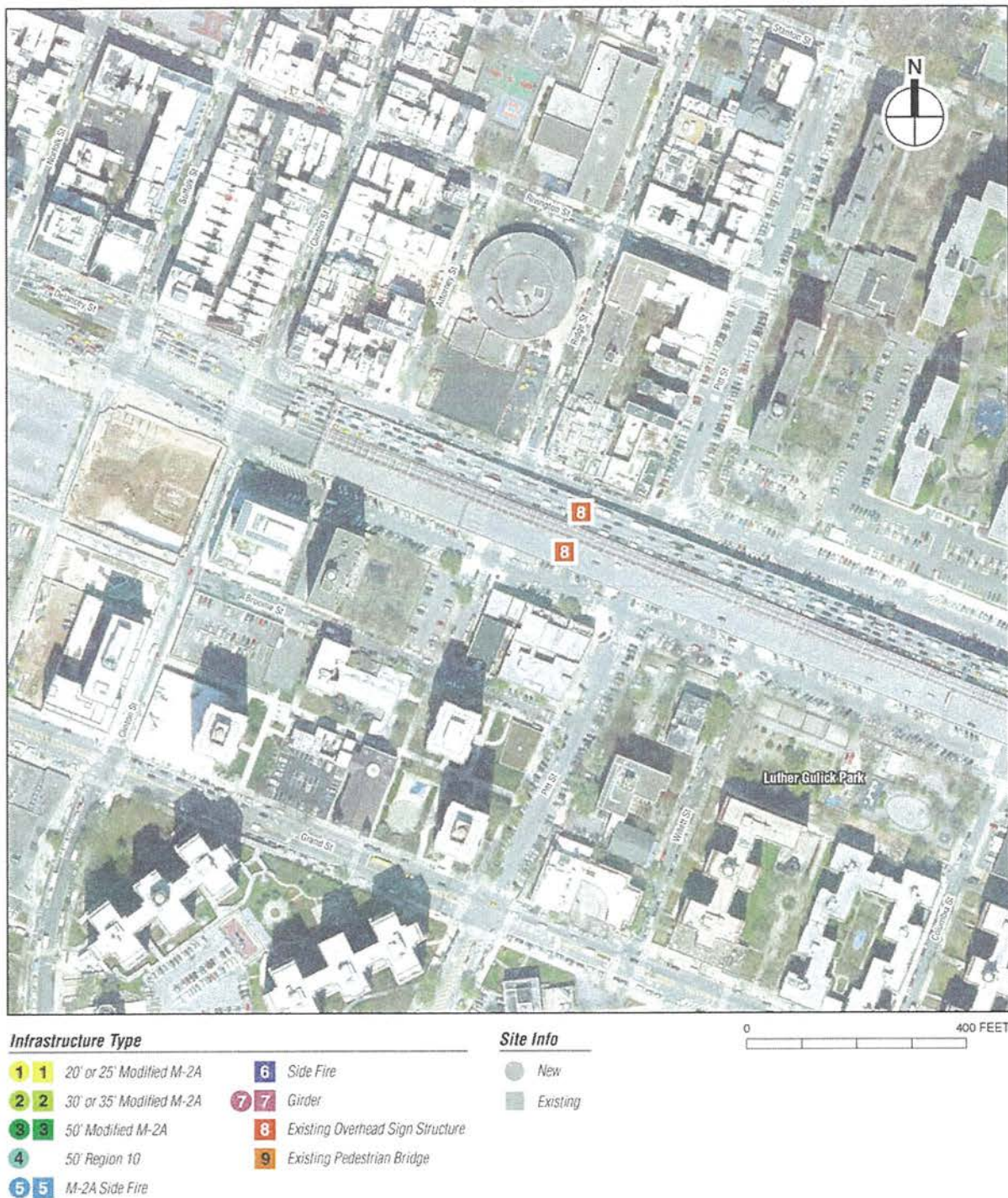
Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. <http://gis.ny.gov/gateway/mg/index.html>.

Figure 2-2c. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Ed Koch Queensboro Bridge



Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. <http://gis.ny.gov/gateway/mg/index.html>.

Figure 2-2d. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Williamsburg Bridge



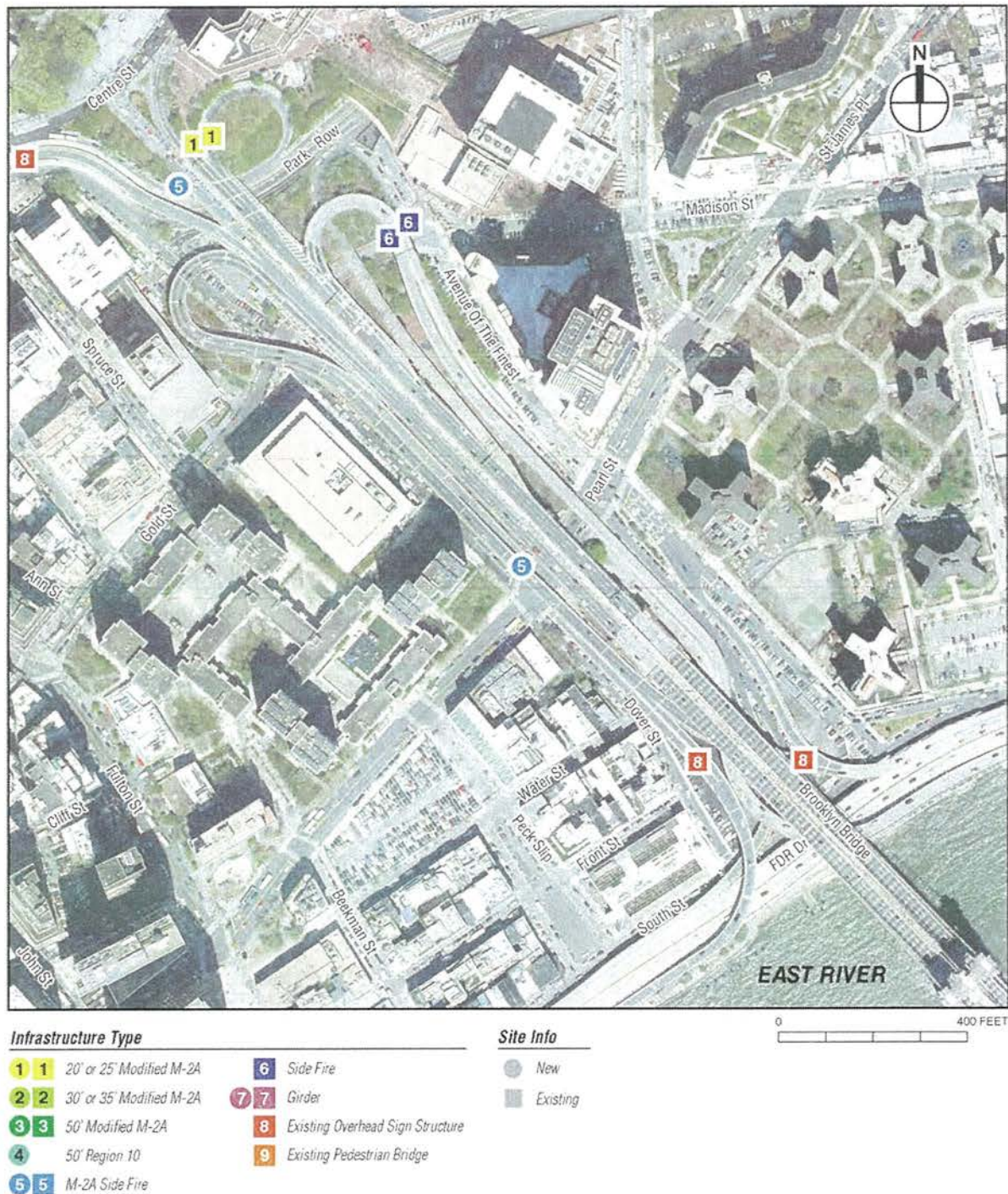
Sources: TBTA, October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. <http://gis.ny.gov/gateway/mg/index.html>.

Figure 2-2e. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Manhattan Bridge



Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. <http://gis.ny.gov/gateway/mg/index.html>.

Figure 2-2f. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Brooklyn Bridge



Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. <http://gis.ny.gov/gateway/mg/index.html>.

Figure 2-2g. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Holland Tunnel

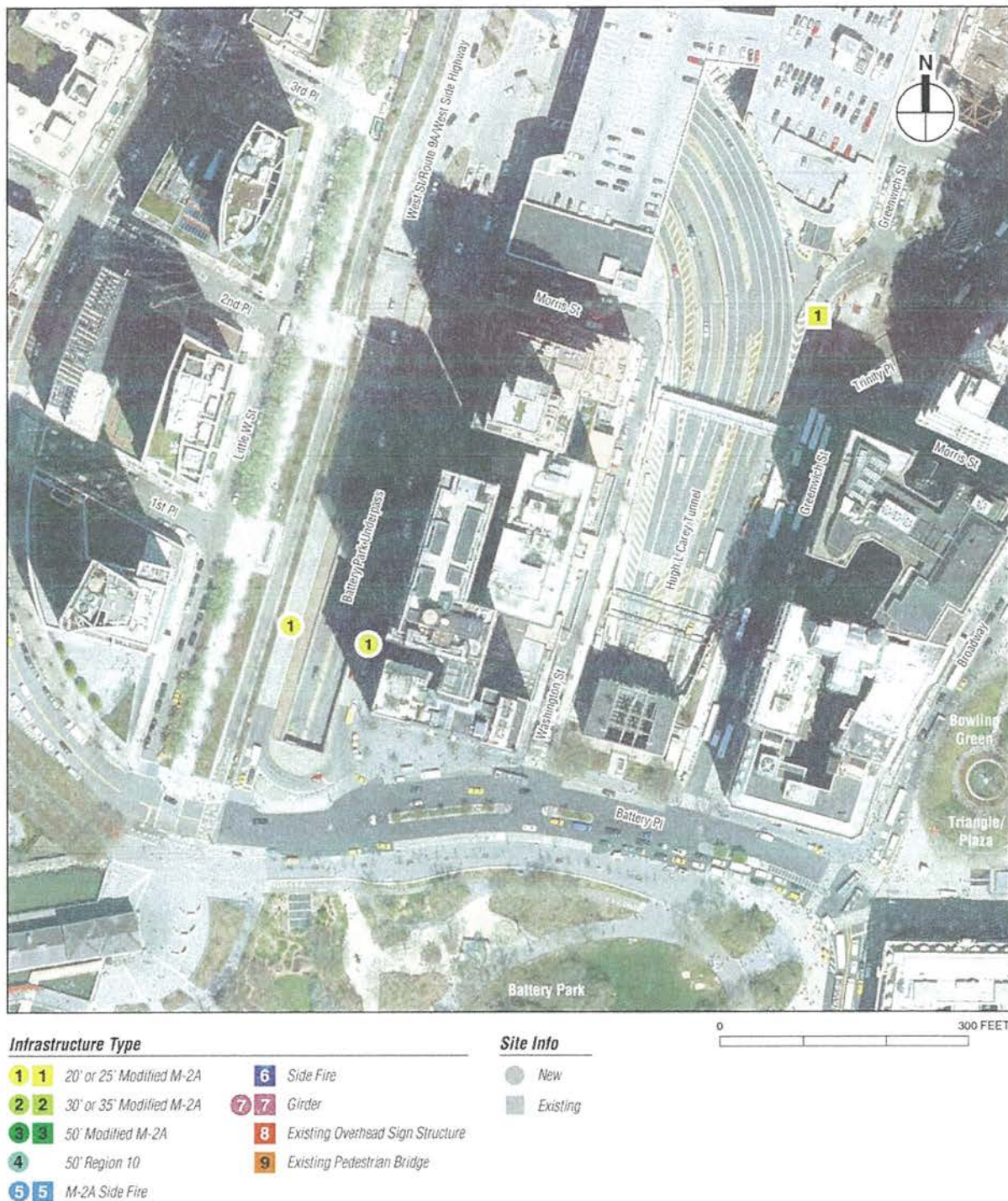


Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. <http://gis.ny.gov/gateway/mg/index.html>.

Central Business District (CBD) Tolling Program Environmental Assessment

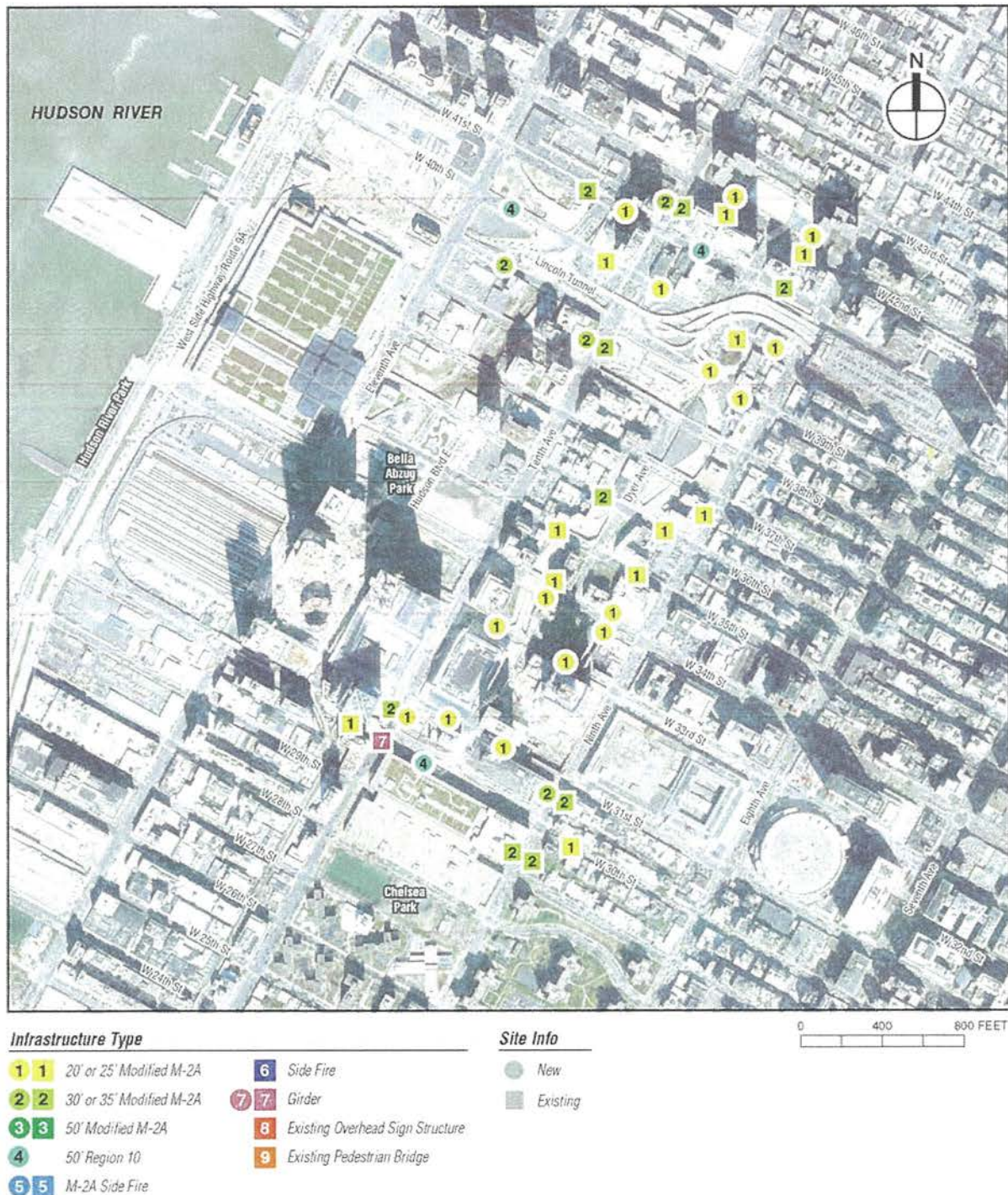
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Figure 2-2h. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Battery Park Underpass and Hugh L. Carey Tunnel



Sources: TBTA, October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. <http://gis.ny.gov/gateway/mg/index.html>.

Figure 2-2i. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Lincoln Tunnel



Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. <http://gis.ny.gov/gateway/mg/index.html>.

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Figure 2-2j. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: 60th Street



Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000–2018. <http://gis.ny.gov/gateway/mg/index.html>.

- **Equipment mounted on existing overhead sign structures and pedestrian bridges.** Along the West Side Highway/Route 9A and the FDR Drive, detection points would be mounted on existing overhead sign structures and pedestrian bridges. Some overhead structures would be strengthened to carry the additional load.
- **Equipment mounted on existing bridge and tunnel structures.** On the Brooklyn Bridge, Manhattan Bridge, Williamsburg Bridge, and Ed Koch Queensboro Bridge, and potentially at the Lincoln and Holland Tunnels, tolling system equipment would be mounted to existing overhead sign structures and/or existing structural elements (e.g., girders, walls) of the structures. In addition, on the Manhattan Bridge, a new overhead steel girder that supports the tolling system equipment would span two existing bridge columns to support tolling system equipment above the inner roadway lanes, while poles and mast arms would capture traffic on the outer roadways. Tolling infrastructure and tolling system equipment would also be mounted directly on the structural elements of the Ed Koch Queensboro Bridge and could also be mounted on structural elements at the Lincoln Tunnel. At the Brooklyn Bridge, two replacement poles and one new pole would be installed close to, but not on, the bridge structure.
- **Existing open-road tolling equipment at TBTA tunnels.** At the TBTA tunnels that connect to the Manhattan CBD (Hugh L. Carey Tunnel and Queens-Midtown Tunnel), existing open-road tolling infrastructure would be used.
- **Portable equipment mounted on movable trailers.** This equipment, potentially up to 70 square feet in size, could be parked in the curb lane at detection points to supplement the permanent detection equipment if needed on a temporary basis. It would include an emergency generator to provide power to the equipment.

The tolling infrastructure and tolling system equipment would use existing or new underground connections to utility and communications networks to receive power and system connectivity.

The Project Sponsors are coordinating with PANYNJ regarding potential use of property controlled by PANYNJ associated with the Lincoln and Holland Tunnels for tolling infrastructure and tolling system equipment. This would allow the Project Sponsors to eliminate several detection points on local streets near the Lincoln and Holland Tunnels. This EA evaluates detector point locations on local streets near the Lincoln and Holland Tunnels as well as on PANYNJ property.

The tolling infrastructure and tolling system equipment have been designed to minimize their visual impact, by using existing infrastructure as much as possible and coordinating the appearance of new infrastructure and equipment with the existing street furniture palette. The color of poles, cabinets, and tolling system equipment would be consistent and would match existing light pole colors. Supports, fasteners, and other hardware would also be designed to be minimally visible. In all cases, the Project Sponsors would avoid the removal of street trees for pole placement to the maximum extent feasible and practicable. In addition, the Project Sponsors have selected locations for the tolling infrastructure and tolling system equipment to minimize their potential for adverse effect on nearby historic properties, including the bridges and tunnels that connect to the Manhattan CBD. **Figure 2-3** illustrates the proposed tolling infrastructure and tolling

system equipment. In addition, illustrations in **Appendix 9, “Visual Resources,”** provide comparison views for the No Action Alternative and CBD Tolling Alternative in selected locations proposed for new tolling infrastructure, tolling system equipment, and tolling signage.

Signage

In addition to the tolling infrastructure and tolling system equipment, the CBD Tolling Alternative would include signage on local streets outside the Manhattan CBD to advise drivers of the toll before they enter the Manhattan CBD, and within the Manhattan CBD to advise drivers before they exit the zone. These signs would be similar in size and nature to existing signs already in place and would be mounted on standard signposts on local streets and on existing infrastructure where feasible.

The type, sequence, and quantity of signs would differ depending on the location. **Appendix 2D, “Project Alternatives: CBD Tolling Program Signage,”** provides maps illustrating potential locations for signage and depictions of the types of signs, based on preliminary design. This information would be further refined during, and additional signs or signs in different locations may be required as a result of, final design.

The following text describes the signage that would be included with the CBD Tolling Alternative, based on location (see **Appendix 2D, Figure 2D**):

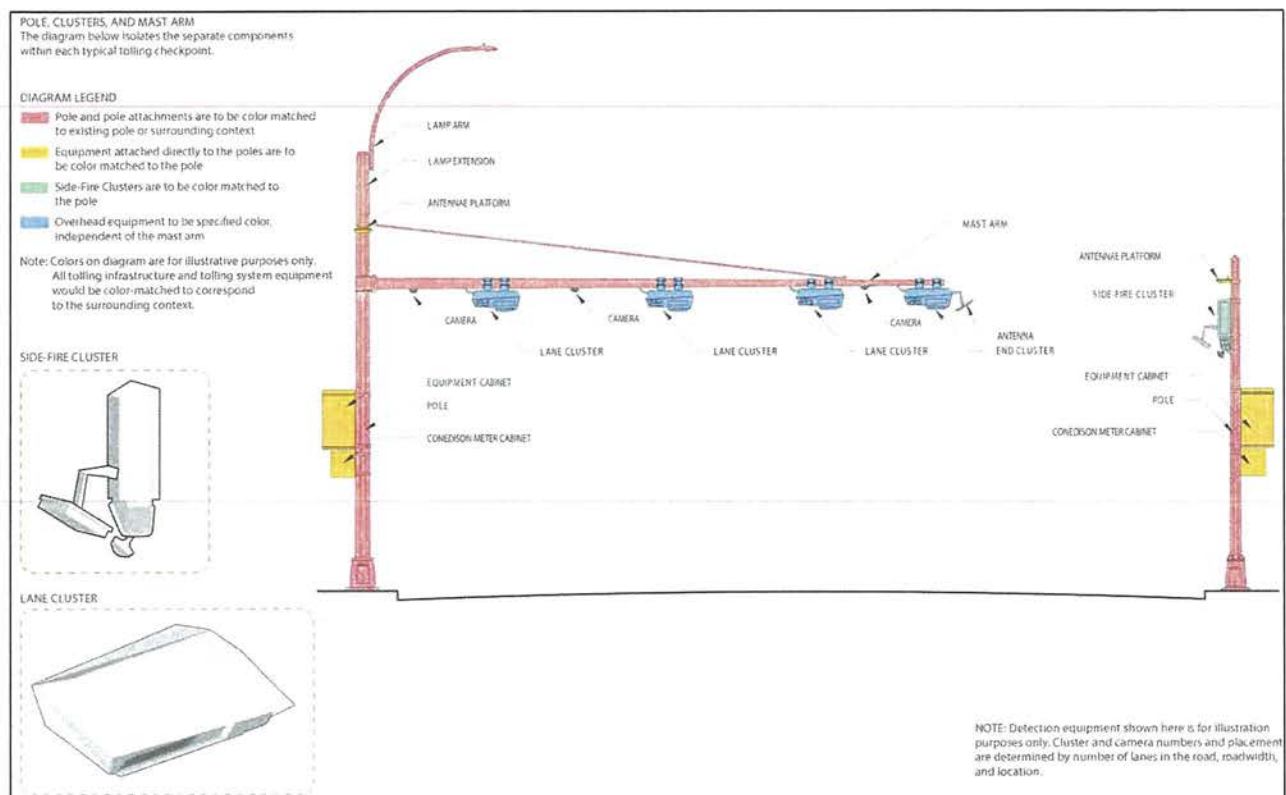
- **Approach to 60th Street/Exits Across 60th Street.** For vehicles driving southbound on the avenues approaching 60th Street, signs would provide notice of the toll at 96th Street, 72nd Street, and 66th Street. An example of these signs is shown in **Appendix 2D, Figure 2D-2**. The signs would be located on existing infrastructure where practicable and on new signposts as needed. Wider streets would have signs on both sides of the street. Thus, each southbound approach to 60th Street would have three to six signs between approximately 96th and 66th Streets, depending on the width of the street.

Signs would also be located along southbound avenues close to the CBD boundary, generally between 62nd Street and 60th Street. **Appendix 2D, Figure 2D-3**, illustrates typical signage in this area. Signs would also notify drivers in vehicles driving east and west across 61st Street, as shown in **Appendix 2D, Figure 2D-3**. There would be approximately nine signs close to 60th Street for each southbound approach.

Within the Manhattan CBD, there would be “end toll zone” signs on northbound avenues close to the 60th Street boundary. Each northbound approach would have approximately two “end toll zone” signs.

These signs on local streets would range in size from 30 inches by 24 inches to 48 inches by 35 inches.

Figure 2-3. Typical Tolling Infrastructure and Tolling System Equipment



Source: TransCore, Parsons, Dattner Architects

- **FDR Drive and West Side Highway/Route 9A.** Signage would notify drivers of the toll at locations along the FDR Drive and the West Side Highway/Route 9A near exits from those highways. (As noted earlier, drivers who use these highways would not be subject to the toll; the toll would apply once they enter the Manhattan CBD from the highway.) To reduce the number of signs at each exit from these highways into the Manhattan CBD, signage with maximum toll rates would be placed only at locations on the highways at the limits of the zone (e.g., on the West Side Highway/Route 9A near 60th Street, on the West Side Highway/Route 9A and at the exit of the Hugh L. Carey Tunnel).

Appendix 2D, Figure 2D-4, shows a typical entry and exit from the FDR Drive into the Manhattan CBD. Upon approach to the CBD boundary, drivers would typically see four signs. An “end toll zone” sign would be located at all entrances to the FDR Drive from the Manhattan CBD, indicating to the driver that they are exiting the zone and entering an excluded roadway.

Appendix 2D, “Project Alternatives: CBD Tolling Program Signage,” Figure 2D-5, shows the signage at a typical West Side Highway/Route 9A intersection with the local street grid.

Signs along the FDR Drive and the West Side Highway/Route 9A would range in size from 30 inches by 24 inches to 54 inches by 36 inches.

- **Brooklyn, Queens, and New Jersey Approaches.** For drivers entering the Manhattan CBD using an East River crossing from Brooklyn or Queens, signs along the highways leading to these crossings would notify drivers of the toll. A typical sequence is shown in **Appendix 2D, Figure 2D-6**. Existing signs would be modified to add necessary toll information where practicable. Following this typical signage sequence, there would be approximately 10 to 20 signs on the approach to each crossing, depending on the unique conditions of each highway approach.

There would also be signs on the Manhattan CBD side of these crossings indicating the start of the CBD for westbound traffic and the end of the CBD for eastbound traffic. The number of signs in these areas would vary based on the structure and layout of the ramps for these crossings.

For crossings between New Jersey and the Manhattan CBD, signage in New Jersey would follow a similar signage pattern and would use existing infrastructure to the greatest extent practicable. Signage in this area would be coordinated with the appropriate local jurisdictions during final design.

- **Central Park.** While public vehicular traffic is not permitted in Central Park, authorized vehicles (e.g., emergency response vehicles, park maintenance, park administration, vendors, and contractors) may use the roads when necessary. Two new signposts would be added within Central Park to notify drivers of entry into the CBD if they exit the park onto 59th Street. These signs would be on West Drive, a one-way southbound road, and next to the southbound lane of East Drive approaching Grand Army Plaza. **Appendix 2D, Figure 2D-7**, illustrates the two signs that would be installed at each of these approaches. The “begin toll zone” sign would be 30 inches by 24 inches and the “max toll rate” sign would be 36 inches by 36 inches. The signs would be affixed to a standard signpost that is approximately 3.5 inches by 2 inches in cross section at approximately 7 feet in height.

2.4.2.3 Logical Termini

The joint NEPA regulations of FHWA, the Federal Transit Administration, and the Federal Railroad Administration (23 CFR Section 771.111(f)) require that actions evaluated under NEPA must “connect logical termini and be of sufficient length to address environmental matters on a broad scope.” Logical termini are defined as rational end points both for a transportation improvement and for a review of the environmental effects. This requirement in the regulations ensures that NEPA evaluations consider a full project, without dividing it into separate pieces so as to change the conclusions about the action’s environmental effects. The CBD Tolling Alternative described in this chapter and evaluated in subsequent chapters of this EA satisfies this requirement.

The CBD Tolling Alternative described in this chapter and evaluated in the EA encompasses all locations where tolling infrastructure and tolling system equipment would be installed as well as the entire Manhattan CBD, which would be subject to the new toll. In addition, the CBD Tolling Alternative could affect travel in a larger area than the Manhattan CBD; therefore, this EA considers the effects of the Project on a regional study area consisting of 28 counties that include New York City and the surrounding area. The 28-county area encompasses the area where most trips to and from the Manhattan CBD originate and/or terminate and is large enough to include any area where effects of the CBD Tolling Alternative could occur and where mitigation could be required because of the CBD Tolling Alternative. See also **Chapter 3, “Environmental Analysis Framework,”** for a discussion of the 28-county regional study area.

2.4.2.4 Tolling Scenarios for Environmental Review

This EA includes evaluation of multiple tolling scenarios within the CBD Tolling Alternative to identify the range of potential effects that could occur from implementing the Project. If the TBTA Board adopts a toll schedule structure that has substantially different attributes from those examined in this EA, the Project Sponsors would review these changes with FHWA and other resource agencies, as appropriate, and identify a course of action to assess and document the changes in accordance with NEPA prior to implementation of the Project.

As described in the following subsections, all tolling scenarios have some features in common, including variable tolling, in which toll rates are higher during peak periods when congestion is greatest. All tolling scenarios also include a higher toll on designated “Gridlock Alert” days²³ when congestion is higher than during typical peak periods.

²³ NYCDOT designates the busiest traffic days of the year as Gridlock Alert days and, to address the traffic congestion that occurs then, requests that travelers in New York City consider walking, biking, or taking public transportation whenever possible on Gridlock Alert days. Gridlock Alert days are designated in advance based on past traffic data and include select days in the November-December holiday period as well as days (typically in September) when the United Nations General Assembly is in session. In 2021, there were 19 designated Gridlock Alert days. <https://portal.311.nyc.gov/article/?kanumber=KA-02759>. In advance of and during Gridlock Alert days, NYCDOT provides messages on roadways throughout the city warning drivers of the Gridlock Alert day and the potential for severe congestion.

The amount of any higher toll for Gridlock Alert days has not yet been determined, and the transportation modeling conducted for this Project and described in Subchapter 4A, “Transportation: Regional Transportation Effects and Modeling,” did not include modeling of a higher toll on Gridlock Alert days because it considered typical days rather than days with unusually high traffic levels.

The tolling scenarios vary in their assumptions about other factors, such as the amount of the toll for different types of vehicles, the times tolls would be imposed, exemptions from tolling, crossing credits for tolls paid on other toll tunnels or bridges,²⁴ and discounts in the form of “caps” on the number of tolls per 24-hour period to be applied to different types of vehicles. To meet the Project objective of creating a funding source for capital improvements and generating sufficient annual net revenues to fund \$15 billion for capital projects for the MTA Capital Program, tolling scenarios that provide crossing credits, discounts, and/or exemptions have a higher toll value than those without these elements.

In all tolling scenarios, vehicles using E-ZPass would be subject to lower toll rates than those without E-ZPass that pay via the Tolls by Mail program. In addition, with the exception of one tolling scenario in which all vehicles would be charged the same toll rate, the remainder of the tolling scenarios would apply different toll rates to different classes of vehicles—with autos, motorcycles, and commercial vans subject to the lowest rate and large trucks to the highest rate.

Table 2-3 provides a summary of the similarities and differences among the tolling scenarios, and Appendix 2E, “Project Alternatives: Definition of Tolling Scenarios,” provides more detail on toll rates.

Tolling Scenario A – Base Plan

Tolling Scenario A, which would have the lowest toll rates of any of the tolling scenarios evaluated, represents the basic tolling program described in the Traffic Mobility Act without any modifications that might be recommended by the Traffic Mobility Review Board and adopted by TBTA.

In Tolling Scenario A, vehicles accessing the Manhattan CBD using TBTA and PANYNJ CBD crossings would pay the tolls for the TBTA or PANYNJ crossing—as they do today—and the Manhattan CBD toll; vehicles using a crossing into the Manhattan CBD that is untolled today (i.e., the Brooklyn, Manhattan, Williamsburg, and Ed Koch Queensboro Bridges) would pay only the Manhattan CBD toll. As with existing conditions, which include a mix of untolled and tolled river crossings, some drivers would choose crossings based on their lower cost even if that route were less direct or slower.

As with all the scenarios, autos, commercial vans, and motorcycles would be charged a Manhattan CBD toll no more than once per day. Taxis, FHVs, buses, and small or large trucks would pay the toll each time they access the Manhattan CBD (see Table 2-3). The tolls in this tolling scenario would vary by the following time periods:

- A peak period from 6 a.m. to 8 p.m. on weekdays and 10 a.m. to 10 p.m. on weekends
- An off-peak period from 8 p.m. to 10 p.m. on weekdays
- An overnight period from 10 p.m. to 6 a.m. on weekdays and 10 p.m. to 10 a.m. on weekends

²⁴ These credits are referred to in this EA as “crossing credits” and are a credit against the Manhattan CBD toll for tolls paid on TBTA and PANYNJ facilities connecting to the Manhattan CBD or Manhattan. Crossing credits have the potential to rationalize existing traffic imbalances between the tolled and untolled East River crossings, which lead to excess vehicle travel and congestion as motorists travel out of their way to avoid a toll (known as “bridge shopping”). However, providing crossing credits for currently tolled facilities would require increases to the toll amount to meet the Project objective related to revenue, and would affect traffic patterns by increasing or decreasing traffic in other localized locations as described in this EA.

Table 2-3. Tolling Scenarios Evaluated for the CBD Tolling Alternative

PARAMETER ¹	SCENARIO A	SCENARIO B	SCENARIO C	SCENARIO D	SCENARIO E	SCENARIO F	SCENARIO G
	Base Plan	Base Plan with Caps and Exemptions	Low Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	High Crossing Credits for Vehicles Using Tunnels to Access the CBD	High Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	High Crossing Credits for Vehicles Using Manhattan Bridges and Tunnels to Access the CBD, with Some Caps and Exemptions	Base Plan with Same Tolls for All Vehicle Classes
Time Periods ²							
Peak: Weekdays	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 10 a.m.; 4 p.m. to 8 p.m.	6 a.m. to 8 p.m.
Peak: Weekends	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.
Off Peak: Weekdays	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	10 a.m. to 4 p.m.	8 p.m. to 10 p.m.
Overnight: Weekdays	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	8 p.m. to 6 a.m.	10 p.m. to 6 a.m.
Overnight Weekends	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.
Potential Crossing Credits							
Credit Toward CBD Toll for Tolls Paid at the Queens-Midtown, Hugh L. Carey, Lincoln, Holland Tunnels	No	No	Yes	Yes	Yes	Yes	No
Credit Toward CBD Toll for Tolls Paid at the Robert F. Kennedy, Henry Hudson, George Washington Bridges	No	No	No	No	No	Yes	No
Potential Exemptions and Limits (Caps) on Number of Tolls per Day							
Autos, motorcycles, and commercial vans	Once per day	Once per day	Once per day	Once per day	Once per day	Once per day	Once per day
Taxis	No cap	Once per day	Exempt	No cap	Exempt	Once per day	No cap
FHVs	No cap	Once per day	Three times per day	No cap	Three times per day	Once per day	No cap
Small and large trucks	No cap	Twice per day	No cap	No cap	No cap	Once per day	No cap
Buses	No cap	Exempt	No cap	No cap	Transit buses – Exempt No cap on other buses	Exempt	No cap
Approximate Toll Rate Assumed ³							
Peak	\$9	\$10	\$14	\$19	\$23	\$23	\$12
Off Peak	\$7	\$8	\$11	\$14	\$17	\$17	\$9
Overnight	\$5	\$5	\$7	\$10	\$12	\$12	\$7

¹ The parameters in this table were assumed for modeling purposes to evaluate the range of potential effects that would result from implementation of the CBD Tolling Alternative. Actual toll rates, potential credits, exemptions, and/or discounts, and the time of day when the toll rates would apply would be determined by the TBTA Board after recommendations are made by the Traffic Mobility Review Board. Appendix 2E, "Project Alternatives: Definition of Tolling Scenarios," provides more detailed information on the rates, potential crossing credits, exemptions, and/or discounts assumed for each tolling scenario.

² Tolls would be higher during peak periods when traffic is greatest. These would be set forth by TBTA in the final toll schedule. All tolling scenarios include a higher toll on designated "Gridlock Alert" days, although the modeling conducted for the Project did not reflect this higher toll since it considers typical days rather than days with unusually high traffic levels.

³ Toll rates are for autos, commercial vans, and motorcycles using E-ZPass and are rounded. For all tolling scenarios, different rates would apply for vehicles not using E-ZPass; for Tolling Scenarios A through F, different vehicle classes would pay different tolls (see Appendix 2E, "Definition of Tolling Scenarios").

Tolling Scenario B – Base Plan with Caps and Exemptions

Tolling Scenario B is largely the same as Tolling Scenario A, but it adds caps on the number of times small and large trucks would pay up to two times each day (**Table 2-3**), and buses would be exempt from the Manhattan CBD toll. The tolls in this tolling scenario would vary by the same time periods as Tolling Scenario A. Given the caps on tolls and exemptions, the toll rates for Tolling Scenario B would be higher.

Based on the modeling conducted for the Project, Tolling Scenario B would not meet the Project's objective related to raising revenue for the MTA Capital Program with the toll rates identified in this EA. Tolling Scenario B was included in the analyses to provide consideration of a tolling scenario with lower toll rates and substantial caps and exemptions, which was a combination repeatedly requested by the public during development of this EA. An additional variation of the original Tolling Scenario B was modeled with toll rates that are 30 percent higher than the original Tolling Scenario B for all vehicle classes across all time periods, which would meet the revenue objective.

Tolling Scenario C – Low Crossing Credits for Vehicles Using Tunnels to Access the Manhattan CBD, with Some Caps and Exemptions

In Tolling Scenario C, vehicles with E-ZPass that access the Manhattan CBD using the four tunnel crossings (Hugh L. Carey Tunnel, Queens-Midtown Tunnel, Holland Tunnel and Lincoln Tunnel) would receive a crossing credit toward the Manhattan CBD toll. The crossing credits would flatten the cost differential for Manhattan-bound traffic between the inbound Queens-Midtown and Hugh L. Carey Tunnels and the East River bridges, to reduce so-called "bridge shopping" that occurs when drivers choose their route into the Manhattan CBD based on cost, rather than time. Vehicles without E-ZPass would not receive any crossing credits.

With Tolling Scenario C, taxis would be exempt from the Manhattan CBD toll, and FHV's would pay the Manhattan CBD toll no more than three times each day (**Table 2-3**). Buses and small and large trucks would pay the Manhattan CBD toll for all trips each day. The tolls in this tolling scenario would vary based on the same time periods as Tolling Scenarios A and B.

Given the crossing credits, caps, and exemptions, the toll rates for Tolling Scenario C would be higher than Tolling Scenarios A and B; it would have lower toll rates than Tolling Scenarios D, E, and F (which have higher crossing credits).

Tolling Scenario D – High Crossing Credits for Vehicles Using Tunnels to Access the Manhattan CBD

Tolling Scenario D would be similar to Tolling Scenario C, but with no caps or exemptions and a higher crossing credit toward the Manhattan CBD toll for all vehicles with E-ZPass that access the Manhattan CBD using the four tunnel crossings. The higher crossing credit would further flatten the cost differential for drivers who pay a two-way toll at TBTA tunnels or the higher tolls at the PANYNJ tunnels.

With Tolling Scenario D, taxis, FHV's, buses, and small and large trucks would pay the Manhattan CBD toll for all trips each day (**Table 2-3**). The tolls in this tolling scenario would vary based on the same time periods as Tolling Scenario A.

Given the higher crossing credits, the toll rates for Tolling Scenario D would be higher than Tolling Scenarios A, B, and C and lower than Tolling Scenarios E and F.

Tolling Scenario E – High Crossing Credits for Vehicles Using Tunnels to Access the Manhattan CBD, with Some Caps and Exemptions

Tolling Scenario E would have the same crossing credits as Tolling Scenario D, but would also have some caps and exemptions. As in Scenario C, taxis and FHV's would have a cap of no more than three Manhattan CBD tolls each day (**Table 2-3**). Transit buses would be exempt while non-transit buses (including privately operated bus services and jitneys) and small and large trucks would pay the Manhattan CBD toll each time they access the Manhattan CBD. The tolls in this tolling scenario would vary based on the same time periods as Tolling Scenario A.

Given the high crossing credits, caps on tolls, and exemptions, the toll rates for Tolling Scenario E would be higher than any of the other tolling scenarios except Tolling Scenario F; notably, while the auto toll rates would be the same as Tolling Scenario F, truck and bus tolling rates would be lower.

Tolling Scenario F – High Crossing Credits for Vehicles Using Manhattan Bridges and Tunnels to Access the Manhattan CBD, with Some Caps and Exemptions

Tolling Scenario F would provide a crossing credit toward the CBD toll for all vehicles with E-ZPass that access the Manhattan CBD and use a tolled crossing to access Manhattan. While Tolling Scenarios C, D, and E would provide crossing credits for Manhattan CBD crossings, Tolling Scenario F would also provide crossing credits for the TBTA Robert F. Kennedy Bridge and Henry Hudson Bridge and the PANYNJ George Washington Bridge. This credit would be the same as in Tolling Scenarios D and E and higher than in Tolling Scenario C. This would flatten the cost differential that would occur in other tolling scenarios between drivers who access the Manhattan CBD via a Manhattan CBD crossing and those who use a crossing outside the Manhattan CBD, to reduce the effects of drivers selecting their crossing and route to and from the Manhattan CBD based on toll costs rather than other factors, such as travel time or distance.

With Tolling Scenario F, taxis and FHV's would be charged a CBD toll once per day (**Table 2-3**), and buses would be exempt, while small and large trucks would pay the Manhattan CBD toll each time they access the Manhattan CBD. Importantly, the peak, off-peak, and overnight time periods would differ from the other tolling scenarios:

- The peak period would be 6 a.m. to 10 a.m. and 4 p.m. to 8 p.m. on weekdays and 10 a.m. to 10 p.m. on weekends.
- The off-peak period would be 10 a.m. to 4 p.m. on weekdays.
- The overnight period would be 8 p.m. to 6 a.m. on weekdays and 10 p.m. to 10 a.m. on weekends.

Given the high crossing credits, caps on tolls, and exemptions, the toll rates, Tolling Scenario F would have the same Manhattan CBD toll rates for autos as Tolling Scenario E, but higher truck and bus toll rates.

Tolling Scenario G – Base Plan with Same Tolls for All Vehicle Classes

Following completion of a preliminary analysis of Tolling Scenarios A through F, and in response to concerns raised during early public outreach for the Project, the Project Sponsors identified a potential modification to the Base Plan (Tolling Scenario A) that would reduce the number of trucks that would divert around the Manhattan CBD, particularly those diverting to the South Bronx and Staten Island. This modification, Tolling Scenario G, would apply the same toll rates to all vehicle classes instead of charging higher rates small and large trucks and buses (**Table 2-3**). As with Tolling Scenario A, there would be no crossing credits in Tolling Scenario G, and taxis, FHV, buses, and small or large trucks would pay the Manhattan CBD toll each time they access the Manhattan CBD.

In addition, a variation of Tolling Scenario G was modeled to test the impact of adding a one-charge-per-day cap to taxis and FHV. Given this cap, toll rates for other vehicles would be approximately 10 percent higher than in original Tolling Scenario G.

[Additional Sensitivity Analyses for Tolling Scenarios]

In addition to Tolling Scenarios A through G, the Project Sponsors also conducted sensitivity analyses for additional, modified tolling scenarios. These included a modified Tolling Scenario B with a higher toll value, modifications to Tolling Scenarios A, D, and G to limit the number of times each day that taxis and FHV would pay a toll, and a further modified Tolling Scenario B with a cap on tolls for taxis and FHV of no more than once per day, no tolls from 12:00 a.m. to 6:00 a.m., a cap on the number of tolls for trucks of no more than twice each day, and exemptions for all buses. More information on these modified scenarios is provided in Chapter 3, “Environmental Assessment Framework,” Section 3.3.3 and Chapter 16, “Summary of Effects,” Section 16.2.4.4. Importantly, the additional analyses demonstrated that these changes to the tolling scenarios do not change the fundamental conclusions of the EA.]

2.4.2.5 Discussion of Effects of Individual Components of Tolling Scenarios

The most important factor in the magnitude and distribution of Project effects is the toll rate. Overall, the CBD Tolling Alternative would reduce congestion regionally and within the Manhattan CBD. On a local level, near and adjacent to the Manhattan CBD, depending on the toll structure, there would be localized increases and decreases resulting from vehicles diverting to avoid the CBD toll. When considering the effects of various parameters other than the toll rate—such as crossing credits, peak periods, and exemptions and caps for taxis and FHV or other vehicles—it is important to understand that these would not be applied in isolation from changes in the toll rate. One of the four objectives of the Project is to create a funding source for capital improvements and generate sufficient annual net revenues to fund \$15 billion for capital projects for the MTA Capital Program. As a result, the more vehicles that are given crossing credits, exemptions, etc., the higher the toll must be to ensure sufficient revenues are generated, which in turn would lead to additional diversions and other resultant effects.

The modeling conducted for the Project demonstrates that all the tolling scenarios would reduce traffic entering the Manhattan CBD, and there would be an overall net benefit in congestion reduction for the region as well. As more discounts, crossing credits, and exemptions are provided, the toll rate would increase, aiding in congestion reduction, but increasing the cost for each driver. Tolling scenarios with

higher toll rates (e.g., Tolling Scenarios D, E, and F) would have greater reductions in traffic entering the Manhattan CBD compared to those with lower toll rates, as well as more increases in transit ridership. As the toll rate increases, more traffic diversions would occur as drivers try to avoid the toll, leading to less traffic in the Manhattan CBD, but localized increases elsewhere.

Crossing credits, which reduce the toll amount paid in the Manhattan CBD for drivers who use certain tolled tunnels or bridges, would change the locations where traffic reductions would occur. Tolling scenarios with crossing credits (i.e., Tolling Scenarios C, D, E, and F) would have less effect on reducing traffic entering the Manhattan CBD from Queens, and much less effect on reducing traffic entering from New Jersey than tolling scenarios without crossing credits (i.e., Tolling Scenarios A, B, and G). With higher crossing credits (e.g., Tolling Scenarios E and F), more traffic would occur at the Queens-Midtown Tunnel and the Hugh L. Carey Tunnel, resulting in more traffic on the Long Island Expressway and a shift of traffic along the Gowanus Expressway from the Brooklyn-Queens Expressway (BQE) to the Hugh L. Carey Tunnel as well as increases in traffic on the local streets in Manhattan that connect to and from these tunnels.

Additional discussion of these effects follows:

- **Toll Price** – Compared to the No Action Alternative, when a toll for drivers entering or remaining in the Manhattan CBD is introduced, the following would occur:
 - Traffic in the Manhattan CBD – Reductions in both the total VMT and the total number of vehicles within the Manhattan CBD. Broadly speaking, without other variables, as the toll increases, greater reductions in vehicles in the Manhattan CBD and VMT would occur. In addition, traffic-related air emissions and noise in the Manhattan CBD would also decrease because of lower VMT and vehicles in the Manhattan CBD.
 - Traffic Regionally – Model results indicate that overall VMT and traffic levels would also be reduced regionally with the introduction of the Manhattan CBD toll, albeit at a lower level than within the Manhattan CBD. The reduction of Manhattan CBD traffic would typically occur as the result of one of two decisions by drivers with respect to paying the toll:
 - Drivers choosing to switch to a public transit option; or
 - Drivers choosing to divert around the Manhattan CBD via the regional highway network.
 - While reduced traffic would occur on a regional basis, providing regional improvements in air quality and noise, some specific routes would experience increases in the number of vehicles and VMT due to diversion of traffic. Tolling Scenarios A, B, and G would result in reduced traffic volumes at all Manhattan CBD crossings but some increase in traffic along circumferential routes that would avoid the Manhattan CBD tolls. Tolling Scenario C, D, E, and F would lead to higher traffic diversions and potential localized traffic effects at the Queens-Midtown Tunnel and Hugh L. Carey Tunnel, as well as higher traffic volumes along circumferential routes along the Cross Bronx Expressway and the Staten Island Expressway. All tolling scenarios would result in an increase in traffic along the FDR Drive between East 10th Street and the Brooklyn Bridge.

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- In essence, as the toll rate increases, reductions in both the number of total vehicles and total VMT would occur, but the increased rate of vehicles diverting around the Manhattan CBD would limit the overall regional improvements.
- **Truck Toll Price** – Across all tolling scenarios, the total number of large- and medium-truck trips within the 28-county regional study area would remain relatively consistent. However, because trucks do not have an alternative mode available, the only means for avoiding the Manhattan CBD toll would be to divert around the Manhattan CBD, leading to localized increases and decreases in truck traffic, the magnitude of which varies by scenario. Large trucks, in particular, would be affected by whether the CBD toll rates are lower, higher, or similar to tolls on the TBTA bridge and tunnel facilities that provide connections to the Manhattan CBD. Thus, the truck toll price, which was modeled at two to three times the amount of the auto toll in Scenarios A through F, and the same as the auto toll in Scenario G, is included as a separate parameter to allow a better understanding of the effects of the Project on this vehicle class.

With increasing toll rates, the number of trucks within the Manhattan CBD would decline, but diversions would increase. Given that some Hudson River, East River, and Harlem River crossings, as well as the New York State parkway network, have vehicle height restrictions, these truck diversions would be concentrated for the most part on the regional expressway system, in particular the Cross Bronx Expressway, Long Island Expressway, Brooklyn-Queens Expressway, and Staten Island Expressway.

For the Manhattan CBD specifically, increasing the truck toll rates would result in a reduction in truck through-trips, those truck trips with an origin or destination within the Manhattan CBD would not be as affected.

The lowest toll rate for trucks would result in fewer truck diversions; however, this would also have the lowest reduction in the number of trucks entering the Manhattan CBD and the smallest improvements in associated traffic congestion, air quality, and noise within the Manhattan CBD.

In response to concerns raised during early public outreach regarding the inability of trucks to switch to transit for their trips and the potential for truck diversions, especially to the Cross Bronx Expressway, Tolling Scenario G was added to demonstrate that truck diversions and associated traffic and air quality effects would decrease as the truck toll is priced lower (in this case, the same as the passenger vehicle toll).

- **Crossing Credits** – Tolling Scenarios C, D, and E would provide crossing credits to drivers who are already paying a toll to enter the Manhattan CBD at TBTA and PANYNJ tunnels. (Tolling Scenario C would provide a lower credit; Tolling Scenarios D and E a higher credit.) Tolling Scenario F would extend these crossing credits to the George Washington, Henry Hudson, and Robert F. Kennedy Bridges.

With each of these tolling scenarios, there would be an increase in the toll to meet the Project's revenue objective.

Given that increased crossing credits would come with higher tolls, truck diversions would also increase, resulting in noticeable reductions of truck through trips in the Manhattan CBD, but localized increases outside the Manhattan CBD.

With increasing crossing credits, higher vehicle volumes and VMT would occur at currently tolled entrance points to the Manhattan CBD, especially the Queens-Midtown Tunnel and the Hugh L. Carey Tunnel, resulting in more traffic on the Long Island Expressway and a shift of traffic along the Gowanus Expressway from the BQE to the Hugh L. Carey Tunnel, as well as increases in traffic on the local Manhattan streets that connect to these tunnels.

Higher crossing credits would lead to a larger mode shift from auto to transit for drivers entering the Manhattan CBD. Those tolling scenarios with the highest crossing credits would also have the highest mode shifts to transit outside of New York City, with increased ridership on commuter rail services and PATH.

- **Time of Day** – The effect of variable tolling at different times of the day is also considered.

Particularly in the overnight period, reducing the toll rate on trucks and other vehicles would reduce the diversion to alternative routes and limit increases to traffic on circumferential routes. This would reduce the overall vehicle and VMT improvement in the Manhattan CBD when compared with other tolling scenarios, although these reduced benefits would occur for the time period when congestion is less of a concern.

Previous studies have shown that while trucks are unlikely to shift their travel time, for private vehicles such options would be limited for the most part for Tolling Scenarios A through E, where the peak period would extend from 6 a.m. to 8 p.m. Tolling Scenario F would instead have two distinct peak periods, an AM peak (6 a.m. to 10 a.m.) and a PM peak (4 p.m. to 8 p.m.). A small portion of drivers would shift to enter the Manhattan CBD to the period of 5:30 a.m. to 6:00 a.m. in all tolling scenarios.

- **Exemptions and Caps for Taxis and FHV's** – As noted previously, while passenger vehicles may be charged only once daily, other vehicles may be charged each time they enter or remain in the Manhattan CBD. Several tolling scenarios include an option to provide caps to the number of times tolls would be charged for taxis and/or FHV's and/or exemptions for taxis and/or FHV's. The more exemptions and caps provided, the higher tolls need to be to meet the Project's congestion and revenue objectives. However, if taxis and FHV's are charged for each trip, the demand for their service would decline, as would the number of trips they make.

Introducing caps or exemptions for taxis and/or FHV's would increase the number of vehicles and VMT within the Manhattan CBD relative to Tolling Scenario A, which would have no such caps or exemptions.

Including an exemption for taxis would result in an increase in taxi mode share relative even to cases where taxis are capped at once per day; however, this would also result in an associated increase in VMT and vehicles.

As with all the other variables, the more exemptions and caps provided, the higher the tolls would have to be to meet the revenue objective. Conversely, fewer (or no) exemptions and caps on taxis and FHV's

would result in a lower toll and less demand for taxis and FHV trips into and out of the Manhattan CBD, which would reduce the number of vehicles and VMT in the Manhattan CBD.

2.5 PREFERRED ALTERNATIVE

FHWA and the Project Sponsors have identified the CBD Tolling Alternative as the Preferred Alternative for the Project. The CBD Tolling Alternative would meet the Project purpose, which is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into the FHWA's Value Pricing Pilot Program. The CBD Tolling Alternative would also meet all four objectives identified for the Project (see **Chapter 1, "Introduction"**), as well as the screening criteria FHWA and the Project Sponsors used in the assessment of preliminary alternatives discussed in **Section 2.3**.

Table 2-4 illustrates how the CBD Tolling Alternative would meet the Project objectives and the specific evaluation criteria that FHWA and the Project Sponsors used in assessing preliminary alternatives and **Table 2-5** provides more detail comparing the results for each of the tolling scenarios within the CBD Tolling Alternative. **Subchapter 4A, "Transportation: Regional Transportation Effects and Modeling,"** provides more information on the transportation-related effects of the tolling scenarios. In addition, **Chapter 16, "Summary of Effects,"** compares the effects of the tolling scenarios and provides information on additional tolling scenarios considered but not evaluated in detail in this EA.

A preferred tolling scenario within the CBD Tolling Alternative has not been identified, though the analyses in this EA afford an understanding of how, if warranted, the toll schedule can be structured to avoid adverse effects. As described previously, the TBTA Board would adopt a final toll schedule, including toll rates and any crossing credits, discounts, and/or exemptions informed by recommendations made by the Traffic Mobility Review Board and following a public hearing in accordance with the State Administrative Procedure Act.

The selected alternative for the Project will be identified in the FHWA's decision document in consideration of comments received throughout the environmental review process, including those received on this EA and from the public outreach.

Table 2-4. Comparison of Evaluation Results for the No Action and CBD Tolling Alternatives

SCREENING CRITERION	NO ACTION ALTERNATIVE	CBD TOLLING ALTERNATIVE
Purpose and Need: Reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements	Does not meet	Meets
Objective 1: Reduce daily VMT within the Manhattan CBD Criterion: Reduce by 5% (relative to No Action)	Does not meet	Meets
daily VMT reduction 202	0	1 - 2
Objective 2: Reduce the number of vehicles entering the Manhattan CBD daily Criterion: Reduce by 10% (relative to No Action)	Does not meet	Meets
daily vehicle reduction 202	0 0	1 -1
Objective 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund \$15 billion for capital projects for MTA's Capital Program	Does not meet	Meets ¹
Net revenue to support MTA's Capital Program ²	0	1.02 billion - 1 billion
Objective 4: Establish a tolling program consistent with the purposes underlying the New York State legislation entitled the "MTA Reform and Traffic Mobility Act"	Does not meet	Meets

¹ Although Tolling Scenario B would not meet Objective 3 with the toll rates identified and assessed in this EA, additional analysis was conducted to demonstrate that it would meet this objective with a higher toll rate; the resulting VMT reduction and revenue for that modified scenario would fall within the range of the other scenarios presented. Chapter 16, "Summary of Effects," provides more information on the modified Tolling Scenario B.

² The net revenue needed to fund \$15 billion depends on a number of economic factors, including but not limited to interest rates and term. For the purposes of this EA, the modeling assumes the Project should provide at least \$1 billion annually in total net revenue, which would be invested or bonded to generate sufficient funds. The net revenue values provided in this table are rounded and based on Project modeling.